NEW EQUIPMENT DIGEST

A Penton Publication

December, 1957

Volume 22—Number 12

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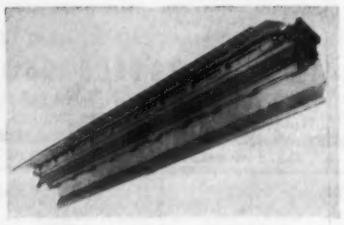
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 4 and 100

EQUIPMENT MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

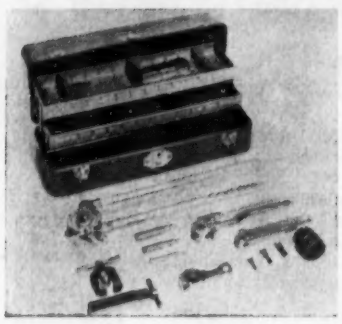
FLUORESCENT FIXTURES
for use with Power Groove lamps



Twice the amount of lumen output per foot of lamp length is realized from the high illumination of Power Groove fluorescent lamps used in Power-Lume F and Power-Lume V fixtures. Suited for medium to high mounting, the self-cleaning fixtures direct over 20 per cent of the light upward. Power-Lume F fixture is usable where rough work is being performed and where shielding is unimportant. Shielded Power-Lume V unit has one-piece porcelain reflector. Made by **Wheeler Reflector Co.**, 273-285 Congress St., Boston 10, Mass.

▲ For more details circle **NED-1 M7** on enclosed inquiry slip ▲

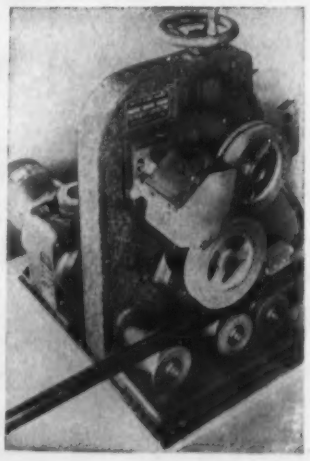
TUBING TOOL KIT
tools cut, flare, bend, swage, close



Tools for cutting, flaring, bending, swaging, and temporary closure of the most popular instrument tubing sizes are found in this tubing tool kit. Included are flaring tool that both flares and burnishes tubing; cutter with ball bearing action and a spare cutting wheel; lever type benders for ¼, ⅜, and ½-in. OD hard or soft tubing; and test plugs and swaging tools in three sizes. They are contained in a steel box with two cantilever trays and a locking snap lock. Twelve adjustable dividers are included. Price is $51.55. Made by **Imperial Brass Mfg. Co.**, Dept. HSF, 6300 W. Howard St., Chicago 31, Ill.

▲ For more details circle **NED-2 M7** on enclosed inquiry slip ▲

WIRE BAR & TUBE PRINTER
handles ⅛ to 4-in. OD material



Magnetic starter activates the motor of this offset wire bar and tube printer as the material passes through an open limit switch. This prevents excessive build-up of ink on the offset printing wheel. Designed to handle material from ⅛ to 4 in. OD without changing guide wheels, the printer is available for left or right-hand feed for incorporation in conveyor lines. Message set on a 24-in. wheel in 1/16 to 1-in. type sizes is printed continuously. Variable speed ½-hp three-phase motor drives the unit from 45 to 450 lineal fpm. Friction-operated unit for use with continuous flow materials is also available from **Pannier Corp.**, 301 Sandusky St., Pittsburgh 12, Pa.

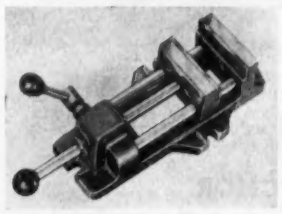
▲ For more details circle **NED-3 M7** on enclosed inquiry slip ▲

HIGH-STRENGTH LOCK WASHER
grips work and fastener securely

Design of this high-strength lock washer affords bolt locking teeth and rigidity, as well as resiliency under extreme loads. Usable wherever high torques are required, it will withstand a 500-lb-in. torque in the ⅜-in. size. Other capacities are proportionally high. Four and six sided pyramidal styles are available. They can also be supplied assembled on screws. Made by **Illinois Tool Works,** Shakeproof Div., 2503 N. Keeler Ave., Chicago 39, Ill.

▲ For more details circle **NED-4 M7** on enclosed inquiry slip ▲

DRILL PRESS VISE
handles work without distortion



Both rigid and nonrigid work is safely handled without distortion in the Adjusto-Quick Control 4-in. drill press vise and fixture holder. The front adjusting screw bushing varies jaw pressure from 1 to 1500 lb. Heavy 4-in. wide removable jaw inserts adapt vise for low cost jigs and fixtures. Maximum opening is 5½ in. Made by **L-W Chuck Co.**, 51 S. St. Clair St., Toledo 4, Ohio.

▲ For more details circle **NED-5 M7** on enclosed inquiry slip ▲

PLASTIC-COATED GLOVES
resist chemicals, solvents, abrasion

Gauntlet, knitted wrist, ribbed surface, and fully coated or palm coated styles of polyvinyl chloride coated industrial gloves withstand abrasion and resist most chemicals and solvents. The North-PVC coated gloves are flexible, will not crack or peel, and are nonflammable and nonoxidizing. Men's and women's sizes are offered. Available from **Jomac Inc.**, Dept. 12, 6128 N. Woodstock St., Philadelphia 38, Pa.

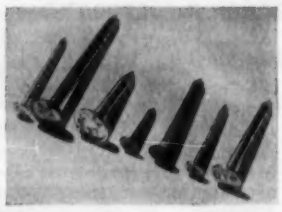
▲ For more details circle **NED-6 M7** on enclosed inquiry slip ▲

AUTOMATIC OILER
for chain, gears, and slides

When mounted at any convenient location, this oiler automatically applies a film of oil to chains, gears, slides, or irregular surfaces. Oil is released manually or electrically, flowing by gravity from the reservoir to the applicators. Needle valve meters the lubricant. Manifolds in series permit one remote dispenser to feed up to 12 outlets through plastic or copper tubing. Applicators, which can be trimmed with scissors, withstand up to 275° F. Capacities range from 4 oz to 2½ qt. Reservoirs and sight fittings are Pyrex glass or shatter-proof Lucite. Made by **Trico Fuse Mfg. Co.**, 2948 N. Fifth St., Milwaukee 12, Wis.

▲ For more details circle **NED-7 M7** on enclosed inquiry slip ▲

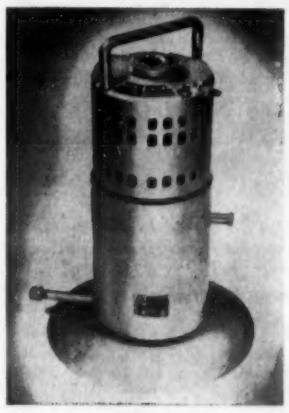
MARKING NAILS
in copper, aluminum, other metals



Heads of these marking nails can be imprinted with a number, letter, or a combination of each for identifying company property, indicating installation dates, marking items for installation, and many other uses. Marking can be raised or depressed on nail head. Large nails can have a raised outer rim to protect marking when being driven. Nails are offered in copper, aluminum, and other metals and range in size from 12 gage, 0.105 to 5/16 in. diameter. Head diameters range from 5/16 in. on the 12-gage nail to 1 in. on the 5/16-in. nail. Lengths are from ⅜ to 7 in. Made by **John Hassall, Inc.**, Box 2178A, Westbury, N. Y.

▲ For more details circle **NED-8 M7** on enclosed inquiry slip ▲

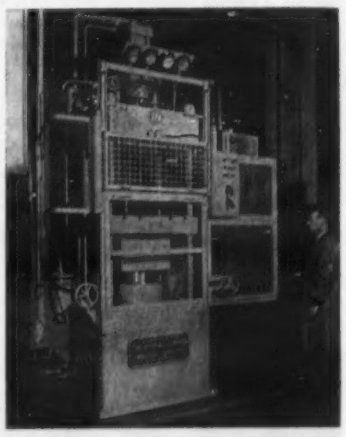
HIGH VACUUM PUMPS
portable units are mechanical



Free air displacement of 50 liters per minute, with an absolute pressure of 0.1 micron with two-stage units and 30 microns with single-stage units are ratings for Asco-Vac 10 Series of portable laboratory mechanical high vacuum pumps. Insulation and rubber mounting minimize noise from the gas ballasted units. Vertical design makes the pumps leakproof, and a visible level oil pump minimizes spillage. Made by **Arthur F. Smith Co.**, Dept. A, 311 Alexander St., Rochester 4, N. Y.

▲ For more details circle **NED-9 M7** on enclosed inquiry slip ▲

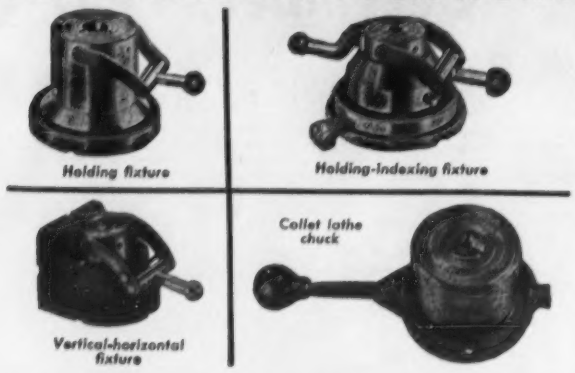
TRANSFER MOLDING PRESS
for plastics, is rated 100 tons



Upward acting H-P-M 100-ton automatic plastics transfer molding press is powered by 15-hp electric motor and employs variable displacement hydraulic pumps for accurate control of speeds and pressures. The 12-in. clamp stroke is adjustable at any point in the stroke. Pressing surfaces for both upper grid and platen are 36 x 16 in., and daylight opening between platen and head is 30 in. The 10-ton hydraulic parts ejection system is built under the moving platen. Transfer cylinder, located on press head, can be adjusted for a force from 8 to 25 tons. Its ram stroke is 9 in. Made by **Hydraulic Press Mfg. Co.**, 1052 Marion Rd., Mt. Gilead, Ohio.

▲ For more details circle **NED-10 M7** on enclosed inquiry slip ▲

GET A HOLD ON YOUR WORK



USE Zagar COLLET FIXTURES-

the most effective, economical, efficient devices for accurate production

A range of fixtures, ideal for milling, drilling, tapping, and grinding is offered by Zagar. Small parts production can now be handled economically, accurately, and profitably. All fixtures can be had in 1" and 2" capacities.

Get Manual "N-12" for more data.

ZAGAR, INCORPORATED 23880 Lakeland Blvd., Cleveland 23, Ohio

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle NED-11 M7 on enclosed inquiry slip ▲

The versatility of BAND-IT CLAMPS makes their use ever increasing—hundreds of millions of BAND-IT CLAMPS are used by all types of industry, world-wide.

A roll of BAND-IT BAND—A box of BAND-IT BUCKLES and the BAND-IT TOOL—all that is needed to quickly form all diameters of BAND-IT CLAMPS.

BAND-IT stainless steel band, in 100' rolls with full round edges, used with BAND-IT stainless steel buckles are available in 4 widths (⅜", ½", ⅝", ¾"), provide the perfect answer to your clamping problems. The BAND-IT tool is simple to operate and is easily portable.

BAND-IT JR. preformed clamps

BAND-IT, Jr., stainless steel preformed clamps in 18 sizes for ¼" to 6" diameters are applied with ease, in seconds using only the BAND-IT tool and adapter. For production clamping we offer the BAND-IT air tools. Send for BAND-IT catalog.

JUST OFF THE PRESS . . . the colorful 20th Anniversary BAND-IT catalog showing in detail the complete BAND-IT line of clamping equipment and auxiliary products. Send for your new catalog today.

BAND-IT COMPANY
Incorporated 1937
4761 Dahlia, Denver, Colo., U.S.A.

Over 1400 Authorized Distributors in all principal cities of the United States and in 59 other countries.

▲ For more details circle NED-12 M7 on enclosed inquiry slip ▲

Business Looks Up

There is a definite correlation between reader interest in the new products announced in NEW EQUIPMENT DIGEST and business itself. For years, the inquiry return through our Reader Service Department has been an excellent barometer of business. The dips in returns have preceded corresponding dips in the business index by six months to a year, and similarly, the increases have presaged an upswing in business over a similar period of time.

NED's inquiry return during the past few months is at an all-time high . . . better than 19 per cent above any previous period. If past performance is indicative of a trend, it would seem that we will be soon entering a period of surging business activity. True, there will be isolated down-trends in certain industries or companies, but the net should be a new high level of industrial and business success.

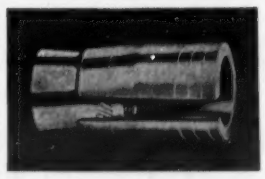
A. N. Gregg
EDITOR

MACHINERY OILER
dispenses single drop or stream

Varying the squeeze on the translucent plastic container of the Squee-Zit angle nozzle pump type oiler enables it to dispense a single drop or a full stream of lubricant. Made without working parts, it has a 3-in. rigid aluminum spout. Translucent body makes it easy to check the oil level and identify the type of oil. Available sizes are 4, 8, and 16 oz. Made by **Butler Stamping Co.**, Dept. 51, Butler, Pa.

▲ For more details circle NED-13 M7 on enclosed inquiry slip ▲

MASONRY BOLT ANCHOR
oversizing of hole is not required



Improved noncaulking Hammer-Set masonry anchor for machine bolts no longer requires oversizing of hole in extra hard masonry. Anchors in range of common sizes are suitable for holding in cement, cinder block, hollow tile, and similar materials and can be used at any depth in the hole. They are also used beneath plaster or other soft surface materials. Made by **Rawlplug Co.**, Dept. ND, 212 Petersville Rd., New Rochelle, N. Y.

▲ For more details circle NED-14 M7 on enclosed inquiry slip ▲

Can you use these two services to speed your ideas into production?

DIAMONITE *high alumina parts*

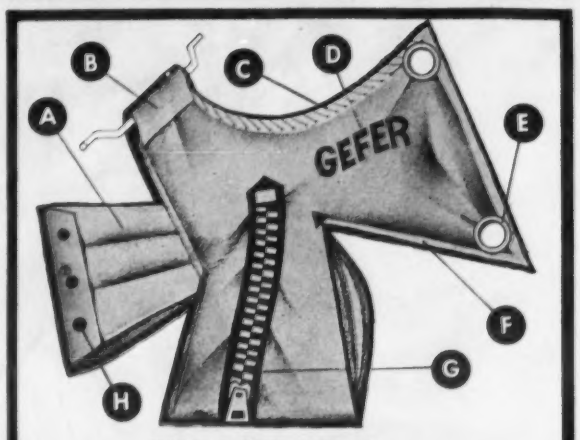
1 **24-HOUR DIAMONITE Off-the-Shelf SERVICE** on standard shapes and sizes of DIAMONITE parts, adapted to your projects. Hundreds of parts listed in the DIAMONITE OFF-THE-SHELF Inventory and Price List. Ask for a copy, Bulletin No. 357.

2 **SPECIAL SHAPES from DIAMONITE PILOT PLANT** engineered to your drawings. Delivery in a few days.

• You save time and money. Speed up your production and development work.

Write, WIRE OR PHONE FOR DETAILS
DIAMONITE products manufacturing co.
CANTON 3, OHIO
pioneers in the development of high alumina ceramics
EA762 phone: GLendale 6-8195

▲ For more details circle NED-15 M7 on enclosed inquiry slip ▲



THIS IS A GEFER MADE OF . . .

FLEXIBLE PLASTIC

AVAILABLE FEATURES!

- A Waterproof Sleeves
- B Double Hem
- C Stitched Seam
- D Screen Process Printing
- E Grommet
- F Electronically Welded Seam
- G Zipper
- H Snap Fasteners

These are only a few of the countless processes and variations that Polo Plastics can supply to meet your own specifications.

WHAT CAN WE MAKE FOR YOU?

POLO PLASTICS Company
DEPT. 22, 1718 N. 1st ST., MILWAUKEE 12, WIS.
Write for the free Polo Plastics Swatch Chart

▲ For more details circle NED-16 M7 on enclosed inquiry slip ▲

Machined from solid steel or malleable castings, Browning couplings offer compact design and maximum strength. Here you'll find a wide range of flexible, rigid and chain couplings employing Browning's malleable split taper bushing; also fixed bore in the smaller sizes, and a new line of minimum bore chain couplings. It's easy to choose the coupling best suited for each job, when you examine the complete Browning line.

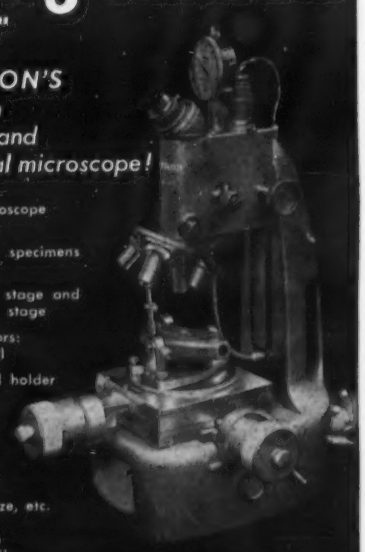
Ask Browning Distributor or write for Catalog V169

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

▲ For more details circle NED-17 M7 on enclosed inquiry slip ▲

MEASURE IN 3 DIMENSIONS TO 0.0001"

with UNITRON'S Combination Toolmakers and Metallurgical microscope!



- Direct reading from microscope screws and dial indicator
- Examines polished metal specimens at 30X, 100X, 400X, etc.
- Ball bearing rectangular stage and calibrated circular rotary stage
- Three separate illuminators: substage, surface, vertical
- Inclinable work and tool holder
- Accessories include viewing screen for contour projection and optical comparison, eyepiece scales for measuring screw threads, diameters, metal grain size, etc.

Even the smallest shop can rapidly pay for this versatile instrument in time and materials saved. UNITRON Model TM, with all its features, costs about the same as the lowest priced, simple shop microscope. . . . . fob Boston only **$1050**

Write for Bulletin TM.

UNITRON INSTRUMENT DIVISION OF UNITED SCIENTIFIC CO.
204-6 Milk Street • Boston 9, Mass.

▲ For more details circle NED-18 M7 on enclosed inquiry slip ▲

NEW! WATER IMPACT SAVES PLUMBING BILLS

CLEANS INSTANTLY

AMAZINGLY EFFECTIVE

Hose attachment feeds water through gun while air is released, causing chain reaction in pipe, cleaning the most stubborn stoppage.

SCIENTIFIC PRINCIPLE

Simple to operate, this new gun delivers an impact which instantly dislodges obstructions. No need to remove pipe, grease trap or cross-piece. Vents or stacks are no obstacle, as force tends to strike at point of resistance.

This new PLUMBER'S FLUSHING GUN cleans out the most stubborn drains in a matter of seconds. Easy to operate trigger releases air pressure on a solid shaft of water, which cleans out TOILETS, BATHTUBS, SINKS, URINALS, HOT WATER PIPES and HOUSE-TO-STREET SEWERS clogged with grease, rags, sand and debris. Effective up to 200 feet in ½" to 6" pipe.

Offered on a 30-DAY FREE TRIAL. FREE BOOKLET also available with no obligation. No agent will call.

MILLER SEWER EQUIPMENT, NED, 4638 N. Central Ave., Chicago 30, Ill.

Please send FREE BOOKLET on Flushing Gun, I am not obligated.

NAME _____

FIRM _____

STREET _____ CITY _____ STATE _____

▲ For more details circle **NED-19 M7** on enclosed inquiry slip ▲

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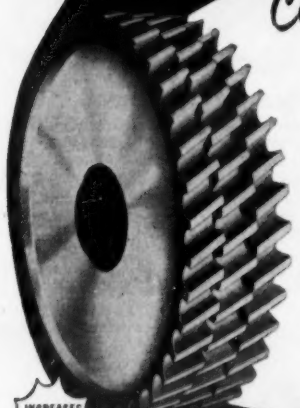
new PROVEN **R-58** SECTIONAL RUBBER CONTACT WHEEL

unequalled *Conformability*



- **CONFORMS BETTER**—Grinds even odd shapes — conforms like no other rubber wheel.
- **SAVES TIME**—Cuts faster, contacts more area on each pass.
- **BELT LIFE UP** 200% and Better—Production tests prove it — Belt "shells out" — No glazing.
- **LEAVES NO PATTERN ON WORK** — Overlapping action eliminates stripe or pattern when more than one section is used.
- **LASTS LONGER**—New long wearing rubber. If one edge wears, reverse wheel—it operates as effectively as ever.

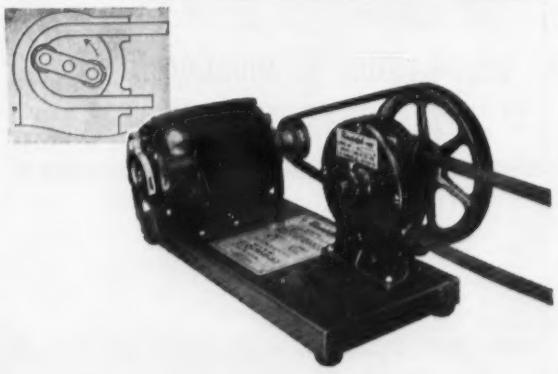
Write today for free information.

INCREASES BELT LIFE UP TO 200% & BETTER

It's The WHEEL That makes the difference!!!

CHICAGO RUBBER COMPANY, INC.
653 MARKET STREET, WAUKEGAN, ILLINOIS

▲ For more details circle **NED-20 M7** on enclosed inquiry slip ▲

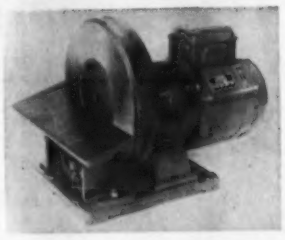


RANDOLPH SQUEE-GEE PUMP HANDLES CORROSIVE SOLUTIONS, ABRASIVE SLURRIES

Here's something different in pump designs—a unit completely without wet parts. Inlet and outlet are a single flexible tube through which liquids and slurries are forced by the action of a rotor. Solutions are isolated from the working parts of the pump. Tubing materials are available for a wide range of corrosives, sterile solutions or beverages. Three models; quiet, trouble-free operation, uniform delivery, negligible maintenance. Write for full particulars, specifying fluids to be handled and capacity required. The Randolph Company, Dept. ND, 1018 Rosine Street, Houston, Texas.

▲ For more details circle **NED-21 M7** on enclosed inquiry slip ▲

ROTARY POWER FILER
shapes metals, plastics, hardboard



Cutting action from three to ten times faster than hand filing is possible with this R-Filemaster multipurpose rotary power tool. It can be used for filing, shaping, milling and machining steel, cast iron, copper, brass, Masonite, plastic, and other materials. Even sticky or gummy materials that cannot be worked on an abrasive wheel or sanding disc are handled easily. The curved tooth, hardened tool steel, cutting tool, available in fine, medium, and coarse cuts, produces rolling, self-clearing chips. A 1-hp, two-speed motor drives the filing tools through a spur gear speed reducer. Illustrated machine has a 45-degree tilting work table and a circumferential 1½-in. file ring. Made by **Hudson Automatic Machine & Tool Co.,** Dept. NED, 137-139 38th St., Union City, N. J.

▲ For more details circle **NED-22 M7** on enclosed inquiry slip ▲

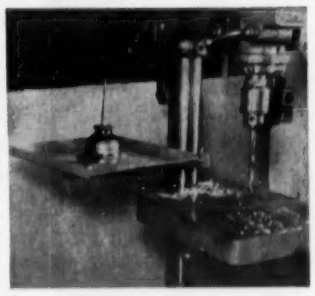
EXTRA-LENGTH DRILLS
straight or taper shanks offered

Fractional or wire gage sizes are available in line of high speed extra-length drills, offered with straight or taper shanks. They are designed for drilling such

deep holes as oil holes where the extra length is required. Made by **Chicago Latrobe,** 413 W. Ontario St., Chicago 10, Ill.

▲ For more details circle **NED-23 M7** on enclosed inquiry slip ▲

MACHINE UTILITY SHELF
10 x 10-in. unit supports 50 lb



A practical resting place for tools or parts that must be kept within easy reach of machine operator is provided by the Piv-O-Tray. The predrilled utility shelf attaches to drill press columns, machine bases, lathes, saws, grinders, and other machine tools. It measures 10 x 10 in., will support more than 50 lb, and can be positioned with the touch of a finger. Made of 16-gage steel with gray enamel finish, tray has 90-degree lip on three sides and an inclined lip on operator's side. Made by **E. V. Nielsen, Inc.,** 135 Broad St., Stamford, Conn.

▲ For more details circle **NED-24 M7** on enclosed inquiry slip ▲

Duff-Norton worm gear jacks available in 5 to 50 ton capacity

Here is a device which every machinery designer should know about

Two or more can be easily connected by shafting and mitre gear boxes to give a positive drive so that jacks always raise or lower under equal or unequal loads in perfect unison. 5 to 50-ton caps., raise up to 25-ins., worm gear ratios 6¾ :1 to 32:1, turn of worm for each 1-in. raise—10 to 48. Acme or square threads. Bellows boots available for certain models.

Send for free booklet showing many successful applications and complete specifications, including questionnaire for aid in selecting proper jack. Ask for bulletin AD34-N. **Duff-Norton Co., P.O. Box 1889, Pittsburgh 30, Pa.**

▲ For more details circle **NED-25 M7** on enclosed inquiry slip ▲

The best sheet metal ROLLER LEVELER ever built!

WOEHR ROLLER LEVELERS

(in several standard models) flatten steel, aluminum, brass and copper in widths up to 60" . . . in gauges .010 to .125! Your fabricating capacity and efficiency are increased *immediately!* Safe, one-man operation is simple and accurate.

Send for FREE BOOKLET. Our brochure gives complete specifications and data. Write for your copy TODAY.

f. a. WOEHR machine co.
11 FAVOR STREET · ROCHESTER, NEW YORK

▲ For more details circle **NED-26 M7** on enclosed inquiry slip ▲

NEW DESIGN- LONGER LIFE- LESS MAINTENANCE

New, Improved **IDEAL**

ALL-SERVICE CLEANER

- Air-engineered to deliver the "max" in performance and long gruelling service. New brush assembly and greater brush length increases brush life by 100%. Special pigtail terminal prevents damage to commutator even when maintenance is neglected.

Improved mounting doubles bearing life and eliminates wear on bearing seats. Bearing load is spread over an increased area to reduce wear and equalize the load. Air movement over coils and armature windings has been stepped up approximately 50% so that motor runs cool at all times.

The result: The best cleaner in its class, in performance and economy. Shown is the Heavy Duty Model, with Blower Nozzle. Complete sets of attachments for any job . . . vacuum cleaning, scrap collecting, spraying paints, oil and other liquids, even drying!

** Light Duty Model only*

3 MODELS for All Jobs
- Super powered 1-1/3 H.P. Model for heavy duty use
- 2/3 H.P. Model for medium duty needs
- 2/5 H.P. Model for lighter duty work

IDEAL INDUSTRIES, INC.
Sycamore, Illinois

IDEAL INDUSTRIES, Inc., 1032-L Park Avenue, Sycamore, Illinois

Please send me full catalog data on IDEAL Hand-Type Cleaner-Blowers.

Name _____

Company _____

Address _____

City _____ Zone _____ State _____

▲ For more details circle **NED-27 M7** on enclosed inquiry slip ▲

DO YOU EMPLOY 100 OR LESS?

Management of smaller firms, experiencing growth potential and seeking to relocate or expand are considering Gardner, Massachusetts.

This away-from-target area, the economic and labor advantages, plus the new Gardner Program to attract growth firms is an expansion opportunity to be included in your program planning file.

If you do not know the Gardner Story, write, wire or phone:

Eugene McSweeny, Director
Gardner Industrial Foundation
Gardner, Massachusetts
Telephone Gardner 3775

For more details circle NED-28 M7 on enclosed inquiry slip

New... MODERN "Quik-Flo" DESK MOISTENER

DELUXE MODEL $6.95

STANDARD MODEL $3.95

RUSTPROOF ALUMINUM COVER - ROTPROOF NYLON BRUSH

COLORS
- SAND CORAL PINK
- SEA FOAM GREEN
- JET BLACK

Write today for complete information.

"Quik-Flo" MFG. CORPORATION
P. O. Box 2 Avenel, New Jersey

For more details circle NED-29 M7 on enclosed inquiry slip

Forced air temperatures to 1050°F accurately maintained with

CHROMALOX *Electric Air Duct Heaters*

For heating air or gases under forced circulation, Chromalox Electric Air Duct Heaters are the efficient, economical answer.

For drying, curing, baking. For heat-treating and annealing ovens. Space heating or adapting air-conditioning systems for central heating.

Heaters can be installed quickly and easily in round or rectangular ducts and accurately controlled either manually or by automatic thermostat.

115, 208, 230 and 460 volts. 91 *standard stock* types, sizes and ratings are ready for immediate delivery.

C-2109

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Edwin L. Wiegand Company
7509 Thomas Boulevard, Pittsburgh 8, Pa.

See other ad on page 79

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NEW EQUIPMENT DIGEST

EQUIPMENT · MATERIALS · PROCESSES · DESIGNS · APPLICATIONS · LITERATURE

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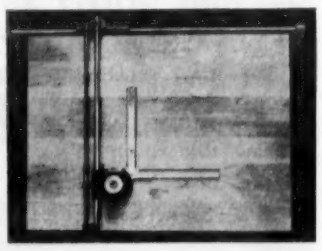
DRAFTING MACHINE works with board at any angle



Accurate angle settings with automatic 15 - degree indexing settings through 360 degrees is a feature of the Glideline drafting machine. Vernier settings give intermediate angles to 5 minutes. It has unobstructed board coverage without machine overhang, and can be used with the drawing board at any angle. Machine has a 360-degree protractor, can be used with any standard scale plates with only scales touching the paper, and will draw long, continuous, parallel, horizontal, or vertical lines. Standard models are for board sizes from 24 x 30 in. to 48 x 96 in. Special vertical wall board units are offered up to 8 x 30 ft. Made by **Glideline Corp.**, 300 S. Potomac St., Waynesboro, Pa.

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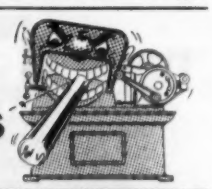

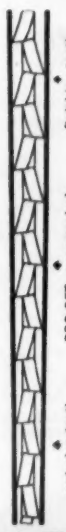

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2	52	102	152	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152	1202
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NEW EQUIPMENT DIGEST

A PENTON PUBLICATION

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Principal Products Manufactured: _____

_____

_____

Approximate Number of Employees in Plant: _____

Check Invested Capital Rating of Your Company

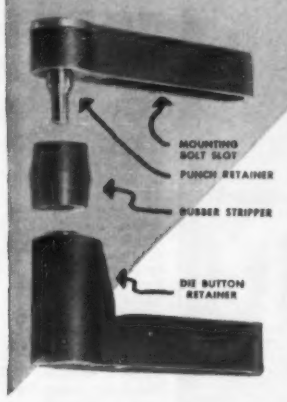
- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

USE THIS SLIP FOR DECEMBER, 1957 ISSUE ONLY

M-7

NOW!

PUNCH & DIE BUTTON POSITIONING Flexibility with R-B Flex-Mount RETAINERS



Cut your set-up time for short production runs on light gauge metals . . . R-B Flex-Mount Retainers permit quick, easy and flexible mounting of punches and die buttons. For, Flex-Mount Retainers are easily bolted in any desired position on T slotted or drilled and tapped commercial die sets.

Standardized R-B punches and die buttons (round, square, oblong or special shapes to customer specifications) are used in these retainers. Stripping is accomplished with R-B rubber strippers or R-B rubber covered springs to eliminate costly metal strippers, retainer screws and springs.

Use R-B Engineering Service for Your Tough Piercing Problems.

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 7B • 26482 CAPITOL AVE. • DETROIT 39, MICH.

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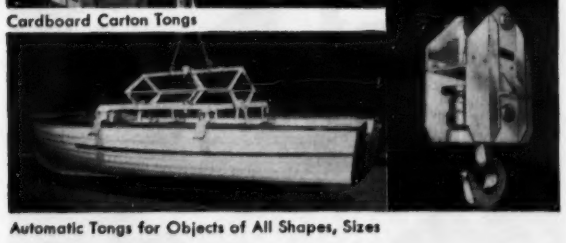
Lifting problem? Transfer problem?

Double "C" Hook Pallet Lifter

Motorized Rotating Crane Hook

Cardboard Carton Tongs



Automatic Tongs for Objects of All Shapes, Sizes

If it hangs from a crane . . .

HEPPENSTALL CAN HANDLE IT

Eliminate production bottlenecks—Heppenstall Tongs speed work from one operation to the next, hold it at advantageous working angle, carry finished products to shipping or storage areas. *Conserve space*—Heppenstall Tongs permit close, high stacking of raw materials and finished inventory with minimum aisle space.

Send today for additional information on Tongs for every lifting operation, or tell us your special problem and we'll help you with custom designs.

HEPPENSTALL COMPANY
501 Sixteenth Street, New Brighton, Pa.

For more details circle NED-37 M7 on enclosed inquiry slip

UNIT Challenger . . . as a CRANE LIFTS UP TO 10 TONS

Economical IN OPERATION

Efficient IN ITS PERFORMANCE

Here's a handy crane for ALL types of material handling jobs . . . on or off the highway . . . or in the yard. You'll find the UNIT Challenger is built for speed, accuracy and easy handling. It's TOPS in performance, yet economical in operation. And the Full Vision Cab promotes safety. Write for Bulletin C-800.

UNIT CRANE & SHOVEL CORP.
6607 West Burnham Street • Milwaukee 14, Wisconsin, U. S. A.

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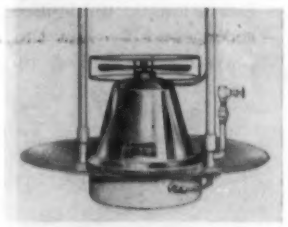
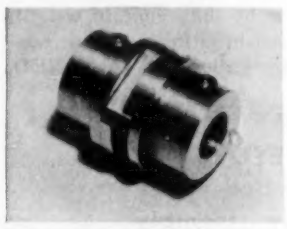
HUMIDIFIERS
self-contained suspended models



Water vaporizing unit, basin with float valve for water level control, hangers, suitable brackets, and humidity control comprise the IH27-B humidifier. The self-contained unit has an output up to 3 gph of vapor. Centrifugal force causes water to travel up to motor-driven disc, striking the grid vanes with force enough to cause atomization. A fan, also powered by the 1/8-hp motor, circulates room air and water vapor. Unit is 25 in. diameter by 15 in. high and can be mounted on ceiling, side beam, or pipe. Various motor voltages are offered. Made by **Standard Engineering Works,** Box 433, Pawtucket, R. I.

For more details circle NED-39 M7 on enclosed inquiry slip

MINIATURE COUPLINGS
are stainless with nylon center

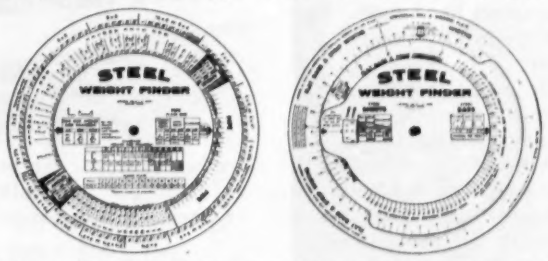


Type T line of miniature precision couplings features stainless steel construction with nylon or oilless type center blocks. Couplings are available in pin and clamp type hubs in bore sizes of 1/8 to 1/4 in. Made by **PIC Design Corp.,** Dept. NED-P2, 477 Atlantic Ave., East Rockaway, N. Y.

For more details circle NED-40 M7 on enclosed inquiry slip

STEEL WEIGHT FINDER
determines weight of many products

Rapid, accurate determination of exact weights of a wide variety of steel products is possible with the circular slide rule type Steel Weight Finder. Over

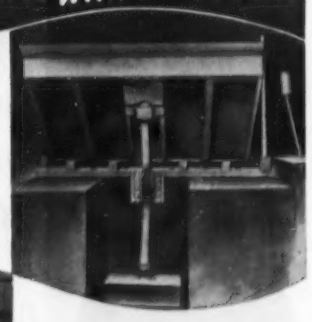


1000 items, including steel angles, bars, channels, beams, plates, sheets and strip, floor plate, and pipe are included on the slide chart. Weights obtained by making a single setting of one of its four dials are shown in a window. The low cost item is available in quantities with a company imprint as a giveaway item. Made by **Alcott Calculator Co.,** Dept. NED, Box 4606, Ft. Lauderdale, Fla.

For more details circle NED-41 M7 on enclosed inquiry slip

SPEED HANDLING *with this* TEAM

HERCO-4WAY ADJUSTABLE and **TRUCK-O-MATIC** AUTOMATIC **DOCKBOARDS**
Improve and simplify dock loading operations.



HERCO DOCKBOARDS
available in two standard sizes, 48" and 60" or custom fabricated. Spring action counterweight. Has easy side to side adjustment.

TRUCK-O-MATIC
self-actuating, available in 6', 8', 10' models. New, revolutionary design allows dockboard to be lowered as the incoming truck pushes against actuating arms positioned in front of this unique unit.

plus
HERCO-FLEX RUBBER BUMPERS
Rugged, scrub resistant rubber that absorbs shock, rides with truck to eliminate splintering and necessary replacement of dock timbers.

Karl A. HERMAN Company
412 FULLER AVE., N.E. GRAND RAPIDS, MICHIGAN

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FREE . . . Chart

This conversion chart is amazingly useful for engineers, shop men and for other executives. Included are common conversions such as inches to centimeters or watts to H.P. as well as many conversions that are difficult to locate in reference manuals. Use this post-paid reply card or your letterhead to request your free chart (limit one to a person). This chart is our gift to you; no salesman will call. Our current catalog will be sent with chart.

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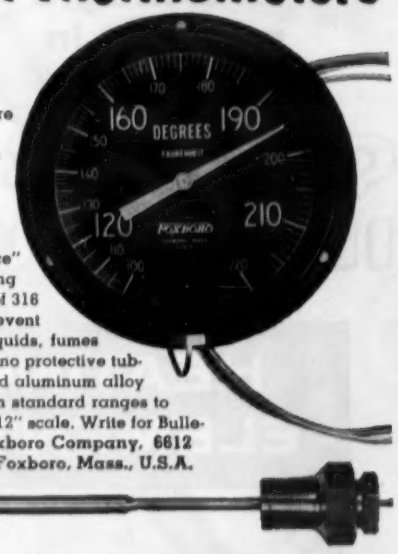
CHICAGO 40, ILLINOIS

For more details circle NED-43 M7 on enclosed inquiry slip

"Lifetime" Dial Thermometers



You're always sure of accurate temperature readings with this easy-to-read Foxboro "Lifetime" Dial Thermometer. Welded "one-piece" bulb and connecting capillary tubing of 316 Stainless Steel prevent corrosion from liquids, fumes or vapors. Needs no protective tubing. Tightly sealed aluminum alloy case. Available in standard ranges to 1000°F. Full-size 12" scale. Write for Bulletin 14-11. **The Foxboro Company, 6612 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO Reg. U. S. Pat. Off. DIAL THERMOMETERS

For more details circle NED-44 M7 on enclosed inquiry slip

ADAMS creates a Cyclone to give you Drier Compressed Air

The Adams Aftercooler and Cyclone Separator are a perfect team. The highly efficient aftercooler condenses more moisture . . . the separator's unique design creates a cyclone to remove more of the condensation.

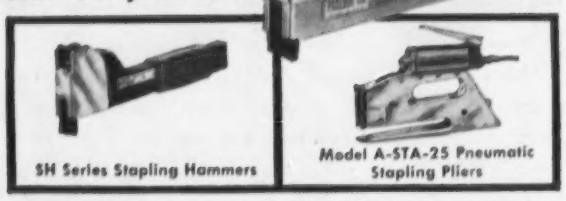
Write today for all the facts . . . Get your copy of Bulletin 711.

R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

For more details circle NED-45 M7 on enclosed inquiry slip

NEW MODEL PTL PASLODE AIR TACKER

Delivers more power with less air pressure



SH Series Stapling Hammers — Model A-STA-25 Pneumatic Stapling Pliers

New inner design drives harder, faster, with no recoil, at normal air pressure. Nice balance means less fatigue . . . quality precision parts live up to Paslode reputation for rugged dependability and trouble-free operation. The PTL drives wide or narrow crown staples. Leg lengths 3/16" to 3/4". Write for description and prices on the PTL and our complete quality line of stapling tools and staples. Free demonstration and 30-day free trial.

PASLODE COMPANY
Division of Signode Steel Strapping Co.
5860 Northwest Highway, Dept. NED, Chicago 31, Ill.

For more details circle NED-49 M7 on enclosed inquiry slip

2.3μ ...a magic number in infrared

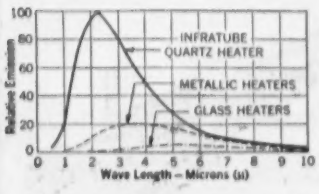
QUARTZ INFRATUBE®

HEATING ELEMENTS

New High Efficiency Infrared Heating—

- SHORTENS PRODUCTION CYCLES
- IMPROVES PRODUCTS
- SOLVES MANY DRYING, BAKING, CURING, HEATING AND PROCESSING PROBLEMS

2.3 MICRONS is the wave length of infrared radiation most completely absorbed by practically all industrial materials. New Infratube Quartz Elements have been developed to give peak infrared emission at this optimum wave length.



Comparison of the emission curves of Infratube Elements with those of other near or far infrared sources. The high peak represents the maximum emission at the wave length most readily absorbed by most solvents and materials.

New Infratubes are available in lengths up to 72 inches, standard and special voltages, wattages up to 6000. Typical applications include fusing vinyl, curing resins, softening plastics, baking organic enamels, fusing vitreous enamel on aluminum, drying leather, textiles, paper and inks and as elements in high temperature ovens.

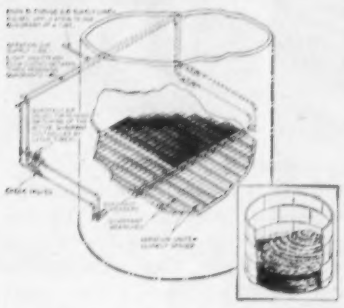
If you have a drying, curing, fusing or heating problem, investigate the advantages of Infratube Industrial Elements. Write for bulletin, now!

QUARTZ PRODUCTS CORPORATION
P. O. Box 628, PLAINFIELD, NEW JERSEY

For more details circle NED-50 M7 on enclosed inquiry slip

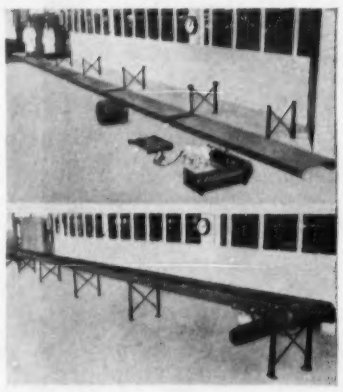
DRY BLENDER for pulverized bulk materials

Deviations in unblended components of less than 0.2 per cent result when the Airmerge Quadrant Blending system is applied to cement, fly ash, and other similar dry pulverized bulk materials. Basically an aeration system, it is capable of blending materials with different bulk densities and finenesses. Bottom of a round silo is covered with closely spaced Fuller aeration units which uniformly distribute the air through a porous refractory block in innumerable fine jets. Compressed air is applied in pulsations to one quarter-section of the silo at one time, fluidizing the materials above that section. Aeration is switched from quadrant to quadrant, blending the material in each and causing a flow from one section to another by difference in weight. Airmerge system can be used in either batch or continuous operation. Made by **Fuller Co.**, Dept. NED, Catasauqua, Pa.



For more details circle NED-51 M7 on enclosed inquiry slip

POWER BELT CONVEYORS slider and roller bed types designed for easy assembly



Purchaser of Model 536 slider bed and Model 538 roller bed packaged power belt conveyors can assemble his own conveyor line on the spot, using only the simplest hand tools. Both models are built in accurate die forms to assure easy assembly of components. In a horizontal installation, the slider bed conveyor can be powered to handle loads up to 75 lb per foot with supports on 10-ft centers. Inclined, it will handle 50 lb per foot.

Roller bed model can be powered to handle up to 100 lb per foot horizontally and 50 lb per foot or more on inclines. Both models are available for horizontal service in standard bed lengths of 5 to 100 ft in 2½-ft increments. Standard bed lengths for inclined service are 5 to 32½ ft in 2½-ft increments. Photos show 50-ft conveyor knocked down and assembled. Made by **Oliver Corp.**, A. B. Farquhar Div., 156 N. Duke St., York, Pa.

For more details circle NED-52 M7 on enclosed inquiry slip

SAFETY EQUIPMENT FOR ALL INDUSTRIES

PROTECTION for Operating Personnel against Corrosive Liquids!

CHEX-SPRAY Valve Shields

APPLICATION

COVERS VALVE STEM PACKING GLAND — A new product for all industries where corrosive liquids are carried by pipe lines. Easily installed. Manufactured of specially compounded neoprene synthetic rubber for inside or outside installation • Made in 4 sizes for use on 3/4" to 6" valves.

WRITE FOR BULLETIN NO. 80

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-53 M7 on enclosed inquiry slip

If you use hollow, cylindrical parts...

This **FREE** guide to centrifugal casting will show you how to improve your product! It explains how the unique centrifugal process gives superior properties to cylinders and cylindrical parts from 7" to 54" OD, up to 33 feet in length. Tables list specifications for more than 70 steel and non-ferrous alloys available. Write for your free copy of Bulletin #200 today.

CENTRIFUGAL CASTINGS
Sandusky Foundry & Machine Company
SANDUSKY, OHIO
Stainless, Carbon, Low Alloy Steels—Full Range Copper-Base, Nickel-Base Alloys

For more details circle NED-54 M7 on enclosed inquiry slip

HENDERER HYDRAULIC PRESSURE TEST PUMPS

Designed for testing boilers, condensers, heat exchangers, pressure vessels, and pipe lines . . . simple construction requires minimum maintenance. Horizontal lift type bronze valves can be reground without removing from pump. Higher pressure pump is all bronze with stainless steel piston. Write for literature on pumps to 10,000 psi.

A. L. HENDERER'S SONS
683 Maryland Avenue, Wilmington 99, Delaware

For more details circle NED-55 M7 on enclosed inquiry slip

NEW

...for the first time

A HANDBOOK ON PIPE UNIONS TO TELL YOU ALL THE FACTS!

16 pages, well-illustrated, packed with vital information. Fine for trouble-shooting and training new men. Pressure-tightness, durability, handling safety, make-up speed—these and other important points are covered in easy-to-understand language. Write today for your FREE copy of "What Makes a Good Union."

Originators and manufacturers of the finest forged steel unions

CLAYTON MARK & CO. 1900 Dempster St., Evanston, Ill.

For more details circle NED-56 M7 on enclosed inquiry slip

CORROSION PROBLEM?

get this fact-filled booklet

What Every Maintenance Man Should Know About

URETHANE COATINGS

Yours Free

AMAZING RESISTANCE to corrosion and abrasion thru a combination of properties never before obtainable in one, easy-to-use coating can now be achieved with new Urethane Coatings.

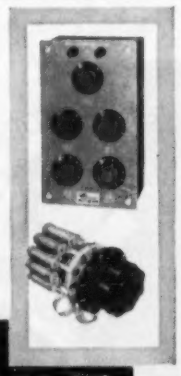
Urethanes have outstanding resistance to heat, sunlight, water and weather and are particularly valuable where the highest degree of chemical resistance is needed. They solve many "problem area" maintenance coating problems.

Based on our long experience in formulating and testing urethanes, we have prepared a fact-filled booklet giving all the facts in everyday language. It's a practical, helpful booklet every maintenance man should have. For your free copy write

BETTER FINISHES & COATINGS, INC.
268 Doremus Avenue, Newark 5, New Jersey

▲ For more details circle NED-57 M7 on enclosed inquiry slip ▲

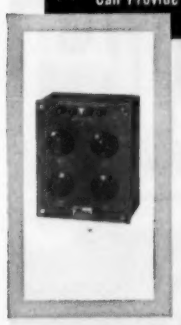
DECADE RESISTANCES



- Over 36 Stock Models
- 1 to 6 Dial Boxes or . . .
- Single, 10-Resistor Unmounted Units
- Total Resistances from 11.1 ohms to 11,111,110 ohms
- Steps as low as 0.01 ohm
- Accuracy better than 0.1% above 10 ohms.

Bulletin L-17A

. . . with the Stability & Accuracy only Wirewound Resistors Can Provide **Shallcross**



DECADE VOLTAGE DIVIDERS

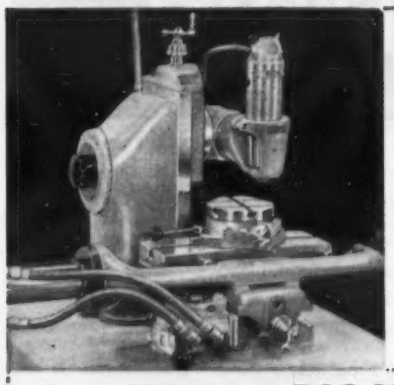
3 Kelvin-Varley Models
Input Resistance—10K, 50K, and 100K ohms, ±0.05%.
Resolution—Any ratio from 0.0000 to 1.0000 in steps of 0.0001

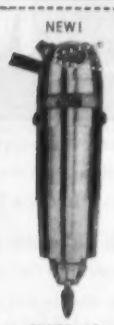
5 Potentiometer Models
Total Resistance—1K, 10K, and 100K ohms, ±0.1%.
Steps—as low as 0.1 ohm.

Bulletin L-16B

SHALLCROSS MANUFACTURING CO., 540 Pusey Ave., Collingdale, Pa.

▲ For more details circle NED-58 M7 on enclosed inquiry slip ▲





SUPER 60
FULL ½ H. P.

Stop Wasting BIG Machines On Small Parts!

Precise High RPM Milling Machines are designed specifically for machining small parts to extremely close tolerances. Operating at 15,000 to 45,000 RPM with a full ½ HP motor and accurate to .0001", they assure perfect results with small diameter abrasive wheels or tungsten carbide tools. They save time and tooling expense, improve the quality of small parts, and free larger machines for more suitable work.

Precise Super 30 Grinder Miller

ATTACH THIS AD TO YOUR LETTERHEAD FOR FREE DEMONSTRATION OR LITERATURE!
Quality and Precision Since 1882
PRECISE PRODUCTS CORPORATION
1328 Clark Street, Racine, Wisconsin

Precise

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STEEL BARREL RACKS
can be handled with fork lift truck

These steel drum racks will support two loaded barrels and facilitate stacking of pairs of containers to any practical height. Units are so made that a two-drum lift can be made by fork truck from front, back, or either side. Truck can pick up, move, and stack as many tiers of loaded drums as its lifting capacity permits. Racks are made of heavy channel steel, strongly braced and welded, and enameled to retard rusting. One unit will support 7500 lb in 18-gage drums and 14,000 lb in 16-gage drums. Made by **Republic Steel Corp.**, Pressed Steel Div., 6206 Truscon Ave., Cleveland 27, Ohio.

▲ For more details circle NED-60 M7 on enclosed inquiry slip ▲

FILLER CAP
for fluid tanks or gear cases

Snap - open, snap - close type filler cap is usable on fluid tanks, gear cases, engine crankcases, or other equipment using liquids in closed containers. Made of aluminum die castings it is available in combination with built-in breather vents and dip sticks. Made by **Technical Development Co.**, 307 S. Chester Pike, Glenolden, Pa.

▲ For more details circle NED-61 M7 on enclosed inquiry slip ▲

STORAGE CABINETS
steel models for various uses

Storage, wardrobe, combination storage-wardrobe, desk-height, counter-height, and tool room cabinets comprise Penco line of steel cabinets. They have smooth exteriors, three-point latching, built-in grooved key locks, cornice tops, no-sag doors, flush hinges, and adjustable shelves. Meeting government specifications, cabinets have an oven-baked gray or green enamel finish, electrostatically sprayed over a corrosion resistant zinc-iron-phosphate undercoat. Made by **Alan Wood Steel Co.**, Penco Metal Products Div., Dept. NED, 200 Brower Ave., Oaks, Pa.

▲ For more details circle NED-62 M7 on enclosed inquiry slip ▲

small, lightweight Air Hoist gives you greater VERSATILITY

Ingersoll-Rand AIR-BLOC
combines safety, ruggedness and mobility . . .

The I-R AIR-BLOC gives you versatility you never thought possible for speedy handling of loads up to 1000 pounds. No mechanical brake to fail . . . load can't drop even if air pressure fails. Responsive throttle control and automatic up-down-stop permit extremely accurate handling. There's a size just right for your job.

Portable winch-type Utility Hoists, in a wide range of sizes up to 4000 lbs., are also available from Ingersoll-Rand.

PENDENT THROTTLE
The only complete line of air hoists with convenient "one-hand" control.

- Speeds spotting of loads.
- Provides "Fingertip" control over full range of speeds.

AIR HOISTS up to 24,000 lbs.

Ingersoll-Rand
11 Broadway, New York 4, N.Y.

8-553

▲ For more details circle NED-63 M7 on enclosed inquiry slip ▲

WEBB *hand pushed* **TROLLEYS**

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.

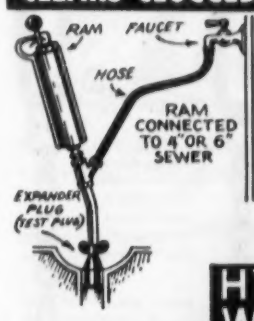
P-2530 TROLLEY
½ Ton Capacity
4" to 12" I-BEAM

Write for Bulletin No. 453:

JERVIS B. WEBB CO.
Conveyor Engineers and Manufacturers
8921 ALPINE AVE. • DETROIT 4, MICH.
Offices in Principal Cities

▲ For more details circle NED-64 M7 on enclosed inquiry slip ▲

CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, *plus* set of 5 tapered adapter plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!
HYDRAULIC MANUFACTURING CO.
DEPT.-NED-12 KIEL, WISCONSIN

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Now . . .
TRI-STATE ENGINEERING COMPANY resumes the marketing of

CARGOTAINERS®

Cargotainers, Pallets, Conveyor Guard and other material handling equipment manufactured by Tri-State since 1946, are now available through our own sales organization and distributors. We can assure you of prompt service on your material handling requirements.

Write Today for New Catalog!

CARGOTAINER
DIVISION
TRI-STATE ENGINEERING COMPANY
315 W. Beau Street
Washington, Pennsylvania

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Got a DUST PROBLEM?

YOU NEED A . . .

DUPOR No. 46

U. S. B. of M. APPROVED RESPIRATOR

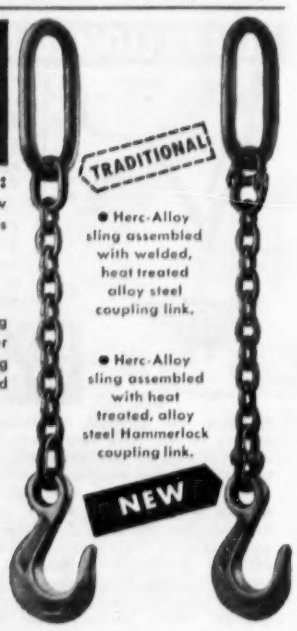
Big 46 sq. in. filter guards against all toxic or poisonous dusts. Guards against pneumoconiosis or silicosis producing dusts. Full panorama visibility. Can be worn with goggles or glasses. Maximum protection at economical low cost! Order sample today, $3.25 postpaid.

H. S. COVER, P. O. Box 2508
South Bend 14, Indiana

"Respirators for Industry since 1894"

▲ For more details circle NED-67 M7 on enclosed inquiry slip ▲

HERC-ALLOY
. . . the original alloy steel chain



● Herc-Alloy sling assembled with welded, heat treated alloy steel coupling link.

● Herc-Alloy sling assembled with heat treated, alloy steel Hammerlock coupling link.

TO SERVE YOU BETTER:
Herc-Alloy chain assemblies can now be ordered with either of two types of coupling links.

Hammerlok®
the "do-it-yourself" reusable coupling link that enables you to assemble or rebuild your own Herc-Alloy sling chains with all components furnished by your local distributor.

CALL YOUR CM CHAIN DISTRIBUTOR or write for helpful literature on alloy chain assembly, care, use and inspection.

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COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
Regional Offices:
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In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ontario

▲ For more details circle NED-68 M7 on enclosed inquiry slip ▲

VEEDER-ROOT

with Veeder-Root
VARY-TALLY

Rejects . . . inventories . . . sales by items . . . sizes . . . colors . . . work-assignments . . . prices . . . whenever you need to keep accurate count of details that would otherwise be tallied by hand . . . get Veeder-Root's VARY-TALLY, the multiple-unit reset counter that counts everything countable.

Arranged compactly on stands in tiers, Vary-Tally can be supplied in almost any combination or numbers of counters, right down to single units. Write for prices. **Veeder-Root Incorporated, Hartford 2, Connecticut.**

"The Name that Counts"

▲ For more details circle NED-69 M7 on enclosed inquiry slip ▲

ELECTRIC HEATING TAPE
aids flow of viscous fluids

Flexible enough to be taped to or wrapped around almost any piece of equipment, Ready-Heat electric heating tape increases the flow of such viscous liquids as bunker C oil, grease, or stearic acid. Taped to sprinkler systems in unheated building, tape prevents freezing, and obviates the expense of operating a dry system. It is UL-approved, requires no attention, and will protect pipes no matter how cold weather becomes. Special kits containing 6 and 12-ft lengths of heating tape include Metalback insulation. Tapes can also be bought in units up to 60 ft. Prices range from $2.95 to $9.95 for unit lengths from 6 to 60 ft. Made by **Cox & Co.,** Dept. NED, 115 E. 23rd St., New York 10, N. Y.

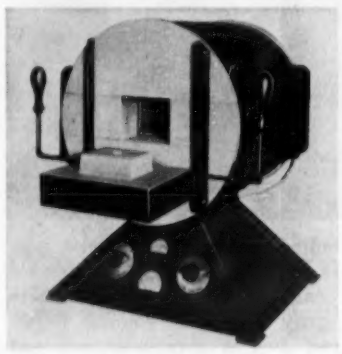
▲ For more details circle NED-70 M7 on enclosed inquiry slip ▲

SCALE MODELS
custom-built to any scale

Custom - built scale models of complete machines or products enable a prospective buyer to see them in three dimensions. Available in any scale, the models make possible the checking of design features without resorting to complex drawings or diagrams. Carrying case is furnished. Annealing furnace in ½ in. to 1 ft scale is shown. Made by **Industrial Models, Inc.,** Dept. E, 2002 Sconset Rd., Wilmington, Del.

▲ For more details circle NED-71 M7 on enclosed inquiry slip ▲

ELECTRIC MUFFLE FURNACE
develops temperature to 2600° F



Completely self-contained and equipped with necessary temperature indicating and controlling devices, this improved G-07 muffle furnace is suited for operations requiring temperatures to 2600° F. Power input is controlled by a 48-step tap-changing transformer. Silicone rod heating elements are arranged for uniform heat distribution. Heating chamber measures 4⅛ x 7 x 2¾ in. It operates on 115 or 230 v ac. Made by **Hevi-Duty Electric Co.,** Box 563, Milwaukee 1, Wis.

▲ For more details circle NED-72 M7 on enclosed inquiry slip ▲

Buschman

BUSH-LOCK

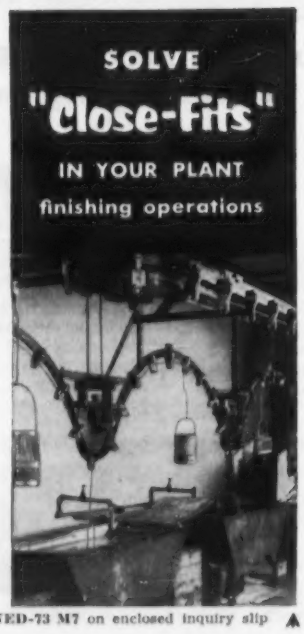
Cable Conveyor Components

Mechanized treating and finishing in just 27 ft. by 5 ft. of floor space—another space saving application of a versatile Bush-Lock Cable Conveyor, the low-cost package of standard stock components.

Sharp turns (from 7½" R)—plus the shortest possible dip in the industry for trolley type conveyors—eliminate space-waste and increase plant capacity in every type of industry.

Buschman specialists will cooperate with finishing equipment manufacturers making a survey of your plant requirements.

C-330-EWB



PRODUCE MORE FOR LESS
Buschman CONVEYORS

THE E. W. BUSCHMAN CO.
4482 Clifton Ave.
Cincinnati 32, Ohio

▲ For more details circle NED-73 M7 on enclosed inquiry slip ▲

Here's the *Portable Pump* that EVERY PLANT can use

Portable, self-priming and powered by heavy-duty, totally enclosed, ball bearing motor, this BRADY model SP-4400 series pump is the work-horse in thousands of industrial plants.

Modestly priced, it is being used as permanent installation on all types of machine tools except grinders; for standby machine tool coolant supply service; and for transferring liquids from drums and tanks to sumps. It will handle any water, non-corrosive liquid, or soluble oil.

Its uses are almost endless in all types of industrial operations.

SP-4400 series pumps are available with ⅛, ¼, ⅓, ½, and ¾ hp motors for all standard voltages and for single or three-phase current.

Unit can be supplied complete with two hoses, valve control discharge nozzle and heavy-duty electric cord, and it needs only be hooked up to go to work.

Complete information, performance curves and prices can be secured from **Brady Pump Corp.,** 1001 E. 18th St., Muncie, Ind.

Advertisement

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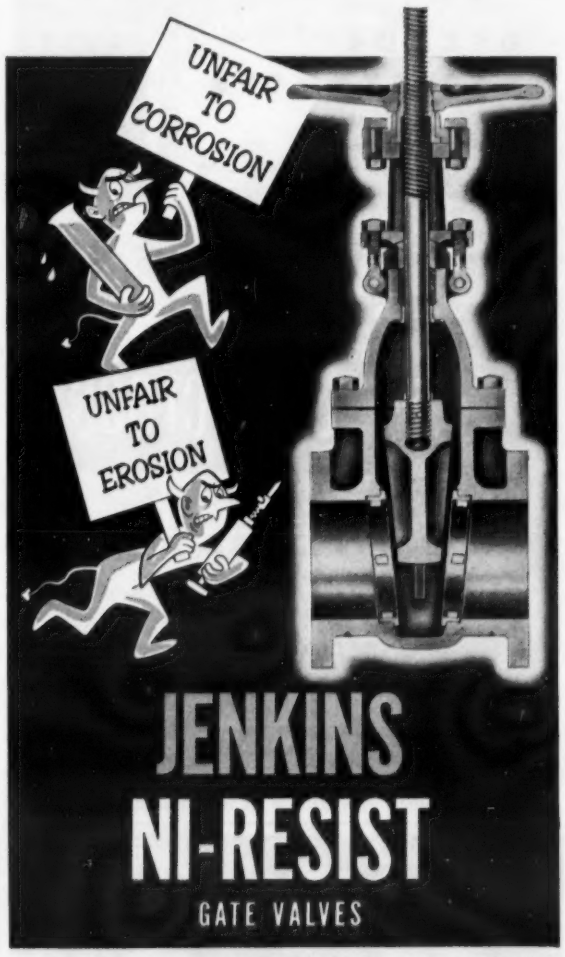

WHEREVER valves are attacked by acids, salt and alkaline solutions, sea water, brine or other corrosive fluids, vapors, gases, "Jenkins Ni-Resist Gate Valves" are *fighting* words.

In a wide range of corrosive and erosive services common to the chemical, food, plastics, marine, petroleum, pulp and paper industries, these valves have shown a remarkable ability to withstand corrosion and cut valve cost.

The secret of their long, trouble-free service is the combination of Ni-Resist type 2 cast iron and type 316 stainless steel trim, plus Jenkins *extra value* construction throughout. No other gate valves offer this combination for fighting corrosion. Specify "JENKINS NI-RESIST" — for longer valve life. Jenkins Bros., 100 Park Avenue, New York 17.

Write or ask your Jenkins Distributor for folder No. 205.

JENKINS VALVES

Sold Through Leading Distributors Everywhere

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STRAIGHT-LINE POWER to fit your specs—

Schrader® Air Cylinders

Wherever you require straight-line force, you'll find there's a compact Schrader Cylinder that will deliver it economically . . . dependably. You can eliminate manual operations in thousands of applications—and at the same time speed production and improve safety.

If you design equipment, consider Schrader Air Cylinders' superlative ability to deliver controlled power exactly where and when you need it.

There's a cylinder to fit every application. Push, pull, reciprocating, and clamping designs . . . with or without cushioned stroke . . . and in a wide range of sizes, stroke lengths, and mountings. Power, speed and timing are easily adjustable. Write for free Schrader catalog.

A. SCHRADER'S SON
Division of SCOVILL
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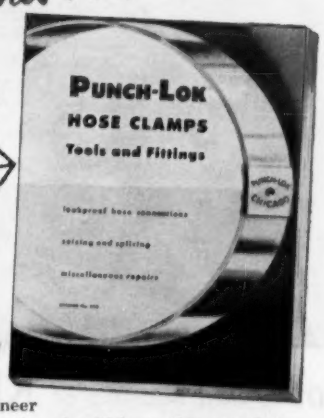

It tells HOW TO SAVE Time and Money

Every maintenance engineer in industry and construction should have this complete compilation of data on the application and use of Punch-Lok Hose Clamps . . . the perfect clamp for

Pneumatic Tool Hose — Suction and Discharge Hose
Welding Hose — Seizing Wire Rope Ends
Mending Split Posts, Beams, and Planks
Splicing Welding Cable — Hundreds of Other Jobs

7029

Send for this 12-PAGE Data Book TODAY!

PUNCH-LOK Company
Dept. A, 321 N. Justine St., Chicago 7, Illinois

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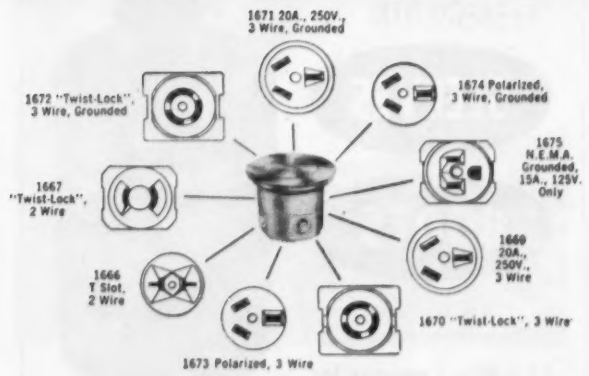
NEW! T&B floor box receptacle combination to fit all plugs and match all circuit wiring



Now you can save time, save installation money and increase safety — all these T&B receptacles fit all T&B floor boxes eliminating special boxes, special adapters and make-shift arrangements.

See your local T&B distributor for full information, or write:

THE THOMAS & BETTS CO.
Incorporated
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada

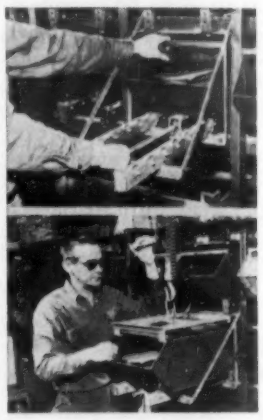
For more details circle NED-78 M7 on enclosed inquiry slip

WELDERS' GOGGLES have soft, pliable frame

Soft, pliable, deep Soft-I frame of the Style 5050 welders' cover goggles molds itself to the user's face and head contours. It fits over prescription glasses. Standard filter lenses for maximum flash protection and standard CR 39 shatterproof plastic lenses are available, as are heat treated filter lenses. Style 5051 for use by chippers is an adaptation of Style 5050 goggles. Made by **Welsh Mfg. Co.**, 12 Magnolia St., Providence 9, R. I.

For more details circle NED-79 M7 on enclosed inquiry slip

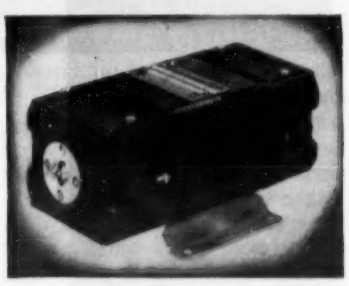
RACK UNLOADING DEVICE brings pan outward for hoist use



This extension unloader makes it possible to use Rapistan Flow Rack for point-of-use storage of goods that are too heavy for manual handling. It allows loaded tote pans to roll far enough out of the rack to permit use of an overhead hoist. Extension consists of a short section of conveyor track that can be attached to any hatch opening in the Flow Rack. Hand lever lifts pan above end stops of rack so that it can glide onto the track extension. Clamping fixture is then placed over tote pan for hooking by overhead hoist. The extension unit is available on new racks and can be installed on many racks now in use. Made by **Rapids-Standard Co.**, Dept. NED, 342 Rapistan Bldg., Grand Rapids 2, Mich.

For more details circle NED-80 M7 on enclosed inquiry slip

MOTOR-GENERATORS for specified dc voltages



Two removable inspection covers permit easy access to brushes, commutators, and bearings of 1958 Genemotors. Suited for use with mobile and marine radio equipment and laboratory apparatus, they supply a specified direct current voltage and are operated from a direct current supply of available voltage. Made by **Carter Motor Co.**, 2711A W. George St., Chicago 18, Ill.

For more details circle NED-81 M7 on enclosed inquiry slip

how SpiroLox Retaining Rings
withstand repetitive shock loads
without jumping the groove!

Unique Spirolox *two-turn* construction enables it to resist shock loads and thrust forces up to its own shear strength. Under thrust, the coils are actually "squeezed" together, thus forming a "friction lock" which makes Spirolox stay in the groove. Blueprint below points out how this "stay-put" characteristic is put to work in a Coaster Brake Assembly. Collar rides to Spirolox, making it necessary for retainer ring to withstand repeated shock loads due to brake application without shearing or jumping groove.

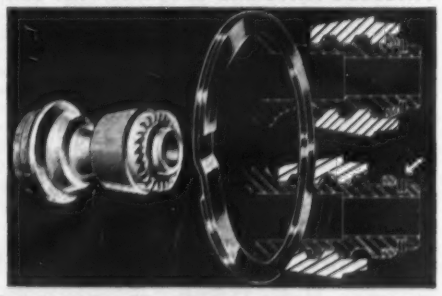
U. S. Pat. No. 2,450,425 and Foreign Pats. Other pats. pend.

Flip! it out

SEND FOR FREE TEST SAMPLES and DATA BULLETIN

Get simpler, more compact design; elimination of trouble spots; removal of awkward parts and costly machining!

SPIROLOX—the better way to hold moving parts together.



Thompson Products, Inc., Piston Ring Div. (Ramsey Corp.) Dept. F, St. Louis 8, Mo.

6441-RT

For more details circle NED-82 M7 on enclosed inquiry slip

NEW BENJAMIN 25% UPLIGHT UNIT ...via Graybar

More light UP means more seeing comfort BELOW. And the new Benjamin RLM-SD-1 Upward Component Unit delivers higher quality lighting due to 25% upward light, 27° shielding, and special high reflectance porcelain enamel. Only unit of its kind equipped with metal-clad *Springlox* lampholders for easy-in, easy-out lamp replacement, and *Lok-Latch* fasteners for simplified reflector removal. Available for 48" and 96" T-12 Slimline, 48" T-12 40-w Rapid-Start and 48" or 96" T-12 800 ma. Rapid-Start Lamps.

This and other Benjamin lighting units can be quickly and conveniently ordered through Graybar offices and warehouses located in over 130 principal cities from coast to coast. A Graybar Lighting Specialist will be glad to provide complete price information as well as technical service and assistance. Call or write today for Benjamin Bulletin "B." 764-2812

Graybar Electric Company, Inc.
420 Lexington Avenue, New York 17, N. Y.

Call Graybar first for . . .
IN OVER 130 PRINCIPAL CITIES

Everything Electrical GraybaR ELECTRIC COMPANY

For more details circle NED-83 M7 on enclosed inquiry slip

CM Lodestar®

ENTIRELY NEW... differently NEW

Built to serve you for its normal life without maintenance

Lodestar is the first truly "heavy duty" version of the small electric hoist. It will serve you without costly maintenance or interruptions in your work schedules.

FLEXIBLE LINK CHAIN

CAPACITIES: from ½ to 1 ton. Single and 3 phase. ¼ ton model weighs only 51 pounds.

PUSH BUTTON CONTROL

$149.50 and up

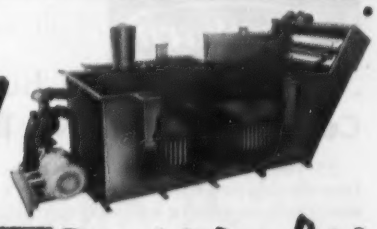
WRITE US: Or call your CM distributor for literature, prices and quick delivery from stock.

CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Chain Corporation
Tonawanda, New York
Regional Offices: New York, Chicago, Cleveland
In Canada:
McKinnon Columbus Chain Limited, St. Catharines, Ontario

CM HOISTS AND CHAIN

For more details circle NED-84 M7 on enclosed inquiry slip

NEW



Delpark Dual Manifold Filter-Matic

FOR CONSTANT, HIGH EFFICIENCY FILTRATION

- 5-1000 g.p.m. flow capacities
- 2 filter element designs
- 2 forms of permanent filter media
- Smaller in size—higher flow rate
- Automatic self-cleaning
- Opposite cycling cleans one manifold while the other filters
- Absolute filtration with precoat
- Clean liquid reservoir separate from filter

Write for more complete information.

Delpark —First in Filtration Advancement

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVE. LEBANON, INDIANA

For more details circle NED-85 M7 on enclosed inquiry slip

CRANE WHEELS AND WHEEL ASSEMBLIES

INSTALL THESE WHEEL ASSEMBLIES complete with axles, bearings, drive gears, grease fittings and all necessary parts for a complete installation. There are sizes, types, and styles of mounting to suit every requirement.

DOUBLE FLANGED WHEELS range in standard tread diameters from 7½" to 24"; SINGLE FLANGED WHEELS from 4" to 8". Wheels are available unmounted or in completely assembled units.

WRITE FOR CATALOG — Complete line of Downs Crane Wheels and Assemblies are illustrated and described in new Catalog 354-6. Specifications included. Write today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS — 540 W. VERNON AVENUE, LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks • Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake Crane Hook Blocks

For more details circle NED-87 M7 on enclosed inquiry slip

Corrosion-Resistant DRUMS coated with MICCROSOL

55 gallon drum, coated with Miccrosol.....$55 (without handles $50)

30 gallon drum, coated with Miccrosol.....$35 (without handles $30)

5 gallon bucket, coated with Miccrosol.....$5

Prices F.O.B. Detroit Other sizes available upon request

Now you can get full size drums and buckets, coated inside and out with corrosion-resistant Miccrosol.

They're ideal for storing acids, plating solutions, and all types of corrosives. Just right to use when making up plating solutions.

Heavy Miccrosol coating will resist all corrosive action. Securely welded handles are convenient for easier handling. Can also be ordered without handles, if you prefer them that way.

You'll find many uses for these sturdy, corrosive-resistant containers.

Order the sizes you need from

MICCRO Products

Developed and manufactured by experienced platers and coaters

MICHIGAN CHROME *and Chemical Company*
275 IRON STREET, DETROIT 14, MICHIGAN

For more details circle NED-88 M7 on enclosed inquiry slip

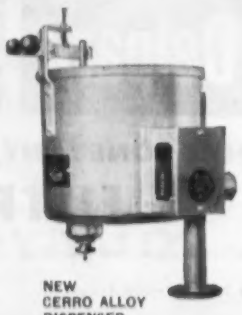
Sta-Warm

. . . specialists in building Cerro alloy MELTING TANKS

35 years of specialized experience! Know-how developed from solving many compound melting, conveying and dispensing problems!

For heating, dipping and dispensing Cerro alloys Sta-Warm has designed a special line of cylindrical and rectangular tanks having special characteristics that avoid freezing and help keep the materials free from contamination while in process.

Inquire today for descriptive literature and outline your compound, Cerro alloy or other soft metal melting requirements. No obligation.



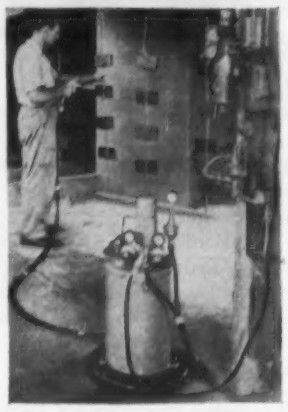
NEW CERRO ALLOY DISPENSER

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

For more details circle NED-89 M7 on enclosed inquiry slip

PAINT SPRAYING EQUIPMENT portable and stationary units ready to connect to air lines



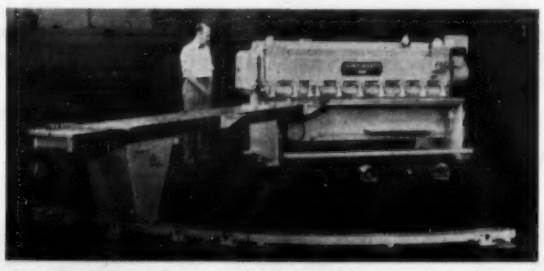
Air-operated paint spray equipment for industrial use is supplied ready to connect to air line for immediate use. Equipment can be used to spray lacquers, enamels, synthetics, airplane dope, fillers, varnishes, phenolic, long oil, die drawing compound, metallics, sealers, primers, and many other materials.

Line includes 4:1 ratio, divorced type paint sprayers in 50-lb capacity portable units and 400-lb stationary pumps. Other items include 2:1 ratio portable and stationary units for production, 1:1 ratio paint transfer pump, multipurpose spray stations, circulating systems, air hoses, Thiokol paint hoses, paint pump, and air line accessories. For indoor or outdoor use, the steel Port-A-Paint stay level cart with the 4:1, 50-lb paint unit is offered. Made by **Aro Equipment Corp.**, Erie St., Bryan, Ohio.

For more details circle NED-90 M7 on enclosed inquiry slip

HYDRAULIC SHEAR cuts steel sheet at angles within tolerance of 2 minutes

Pivoted, angular shearing gage enables this 10 Series by 8 ft Cincinnati shear to cut sheet steel at any of a number of different angles within a total angular



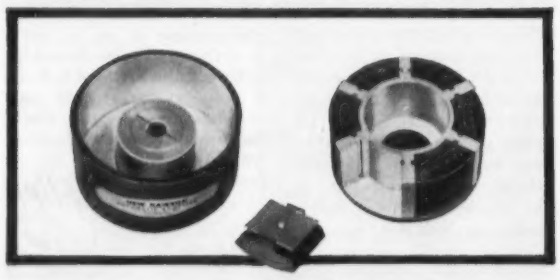
tolerance of only 2 minutes. Pivot point for the gage is in the shear table. Gage-support carriage travels on floor-mounted track. Movement from one gaging position to another is rapid and simple. All gage stops have micrometer adjustment for gaging length of sheared pieces.

Accuracy is insured by hydraulic hold-downs which clamp work with 5-ton pressure. Operating speed of shear is 65 strokes per minute. Photo shows shearing of transformer lamination sheets. They vary in length from 7¾ in. to 15 ft. Material is grain-oriented silicon steel, 0.012 to 0.014 in. thick. Made by **Cincinnati Shaper Co.**, Garrard & Hopple Sts., Cincinnati 25, Ohio.

For more details circle NED-91 M7 on enclosed inquiry slip

New RAWSON Couplings

Prevent heat checking of drums ...with no decrease in torque!



Rawson Couplings offer smooth transmission of loads between motor and machine, in hundreds of varied applications. Their new design incorporates a unique metallic shoe which actually controls the amount of heat that goes into the drum. (Old-fashioned shoes insulate heat into the drum.) Compare — check the many important features you get *only* with Rawson Couplings: —

• ELIMINATE HEAT CHECKING • CUT GENERATED HEAT INTO DRUM ALMOST 2/3 • NO FADING OF TORQUE • MUCH GREATER HEAT DISSIPATION ON HIGH INERTIA JOBS • SIMPLICITY OF DESIGN • INCOMPARABLE DURABILITY

Write for detailed information.

RAWSON COUPLING DIVISION
O. S. Walker Company, Inc.
WORCESTER 6, MASSACHUSETTS

For more details circle NED-92 M7 on enclosed inquiry slip

another cost-saving GRC die cast zinc alloy fastener — NEW

PRICED LOWER

yet they have all the advantages of
GRC design • GRC mass production techniques
GRC uniformity • GRC bright finish

the new GRC "ECONOMY" WING NUT

Die cast in one piece in rustproof, corrosion-resistant zinc alloy.

Stocked in 15 different thread sizes from 6-32 to ⅜-16 in standard as well as new washer base and new "capped" type . . . 4 blank sizes . . . wing spreads from ¾" to 1⅛".

cost? as little as $3.50 per M

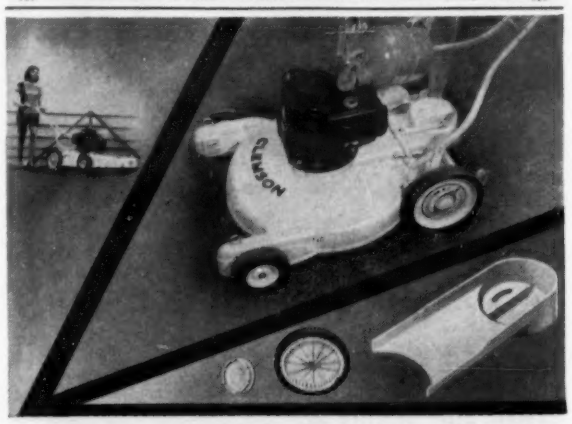
Write, wire, phone for detailed specification sheets and price lists.

Ask about GRC's other wing nuts —juniors, seniors, serrated-based: specials in high, low and round wing styles —other threaded fasteners—cap nuts, round head thumb nuts and screws, rivets— *most economical!*

GRIES

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
143 Beechwood Avenue, New Rochelle, N. Y. • NEw Rochelle 3-8600

For more details circle NED-93 M7 on enclosed inquiry slip



Drive and housing of KRALASTIC

The severe thrust action developed by self-propelled rotary mowers previously required metal gears and wheels. New Kralastic®, with its tremendous impact strength, absorbs this punishing impact and thrust. Extremely strong, tough yet light in weight, Kralastic can't rust, rot or corrode. This unique rubber resin is making more and more products better. How can it improve yours? Why not contact us today and find out?

US RUBBER **United States Rubber**
Naugatuck Chemical Division
Naugatuck, Connecticut

BRANCHES: Akron • Boston • Gastonia, N.C. • Chicago • Los Angeles • Memphis • New York • Philadelphia • IN CANADA: Naugatuck Chemicals, Elmira, Ontario • Rubber Chemicals • Synthetic Rubber • Plastics • Agricultural Chemicals • Reclaimed Rubber • Latices • Cable Address: Rubexport, N.Y.

For more details circle NED-94 M7 on enclosed inquiry slip

PROTECTED

GORTITE

SLEEVES

BOOTS

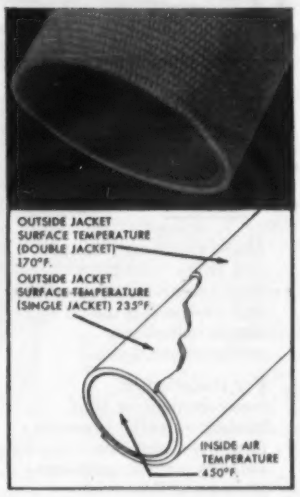
Ask for new bulletin AH-3

A&A Mfg. Company Inc.
712 S. 12th St.
Milwaukee 4, Wis.

ALL SHAPES AND CONTOURS

For more details circle NED-95 M7 on enclosed inquiry slip

NEW QUAKER HOSE for hot air ducting



Made in continuous lengths up to 50′, this new hose easily withstands temperatures as high as +450°F; as low as —80°F. Its synthetic fabric jacket and silicone tube retain temperatures from upstream to downstream end . . . cut heat loss up to 57%. Lightweight and fully flexible, the hose resists abrasion. Available in either single or double jacket, and in 1″ to 4″ I.D.'s. Sizes 1″ and 1¼″ I.D. can be made in 30′ continuous lengths; 1½″ to 4″ I.D. in 50′ lengths. The hose takes regular expansion and shank hose couplings.

For more information, write:

H. K. Porter Company, Inc., Quaker Rubber Works, Philadelphia 24, Pa., or Pioneer Works, Pittsburg, Calif.

H. K. PORTER COMPANY, INC.
QUAKER RUBBER DIVISION

For more details circle NED-96 M7 on enclosed inquiry slip

Are you undecided on the most economical way to bend pipe, tubing or structural metal parts?

Let Pedrick show you some surprising figures on "multiple bending" with PEDRICK PRODUCTION BENDERS.

Write PEDRICK TOOL and MACHINE COMPANY, 3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

PEDRICK PRODUCTION BENDERS

Free "Pedrick Line" Bulletin. Write today.

For more details circle NED-97 M7 on enclosed inquiry slip

Gary WELDED GRATING and TREADS

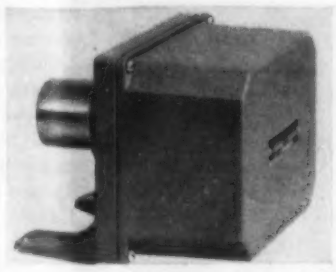
- **TAILOR MADE**—for most economical installation.
- **RIGID STRENGTH**—sturdy resistance-welded construction.
- **LIGHT WEIGHT**—for greater load bearing capacity.
- **SELF-CLEANING**—for reduced maintenance costs.
- **OPEN CONSTRUCTION**—gives maximum ventilation and illumination.

Get all the facts: Write for Bulletin N-127

ROCKWELL SPRING & AXLE CO.
GARY GRATING DIVISION
4045 EAST SEVENTH AVE., GARY, INDIANA

For more details circle NED-98 M7 on enclosed inquiry slip

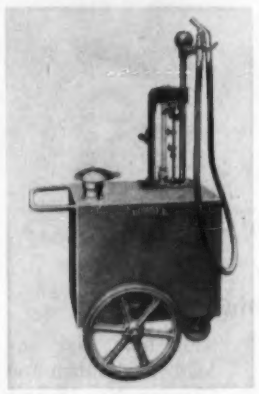
PHOTOELECTRIC CONTROL actuated by dark or light



Flick of a switch on the Dark/Light photoelectric control changes it to either a dark - energized unit or a light-energized unit. Operation in either setting calls for 5 ft-c minimum light and 0.025 second dark or light time. Control relay contacts are double-pole double-throw, rated 8 amp on 110 v ac noninductive. Gasket-sealed 7¼ x 6¾ x 5 1/16-in. cast aluminum case has a 1½-in. lens. Made by **Autotron, Inc.**, Box 722-D, Danville, Ill.

For more details circle NED-99 M7 on enclosed inquiry slip

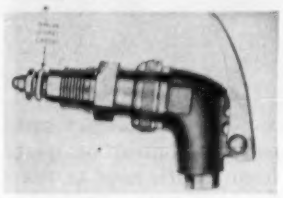
PORTABLE TANK & PUMP for point-of-use liquid dispensing



Lubricating oils, paint oils, solvents, hydraulic fluids, and process liquids are among products that can be dispensed at point of use by the Figure 121 measuring pump-equipped portable wheel tank. Built to UL specifications, it has a fill and vent with built-in flame arrester. Metering pump dispenses liquids in pint, quart, half-gallon, and gallon quantities. Discharge register indicates number of gallons delivered. Tank capacity is 50 gal. Made by **Bowser, Inc.**, 1381 E. Creighton Ave., Ft. Wayne 2, Ind.

For more details circle NED-100 M7 on enclosed inquiry slip

DRUM FAUCET self-closing and leakproof



Spring located within the body of this improved drum faucet maintains a liquid-tight closure at all times. Hand pressure on the large lever type handle permits flow of liquid from the valve which closes automatically. Kel-F or Teflon O-ring gasket withstands the destructive effect of chemicals. Swivel type faucet which is turned and locked at correct dispensing angle after screwing into the drum, and a conventional rigid type are available. Faucet body may be nonsparking brass or stainless steel. A fire baffle-strainer is built in. Made by **Protectoseal Co.**, 1966 S. Western Ave., Chicago 8, Ill.

For more details circle NED-101 M7 on enclosed inquiry slip

free!

GUIDE TO BETTER WORM GEAR SELECTION

Here's complete information on Foote Bros. famous worm gear sets—plus simple-to-follow selection procedure and helpful design suggestions. Engineering Manual SW No. 1 is your guide to proven worm gear performance. Write for it today!

FOOTE BROS.
Better Power Transmission Through Better Gears

FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 S. Western Blvd., Dept. NE,
Chicago 9, Illinois

For more details circle NED-102 M7 on enclosed inquiry slip

AURAND CLEANING TOOLS

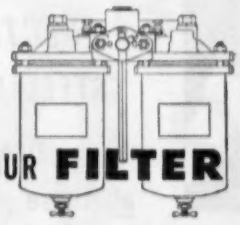
ELECTRIC OR PNEUMATIC MODELS

Surfaces are cleaned quickly with AURAND on the job. Hardened steel cutters zip away stubborn accumulations from iron, steel, brick, concrete. Adjustable depth shoe protects surface . . . assures uniform cleaning. No special skill required. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write Dept. 14 for complete details

AURAND MFG. & EQUIPMENT CO.
1210 Ellis St., Cincinnati 23, Ohio

For more details circle NED-103 M7 on enclosed inquiry slip



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Coolants on lathes and grinders	Hydraulics	Fuels
Paints, varnishes and lacquers	Toothpastes	Waxes
Sugar, confections and syrups	Cup greases	Drugs
Refrigerating fluids	Lubricants	Acids
Coating materials	Chemicals	Inks
Food Products • Beverages	Gasoline	Air

Purolator's comprehensive Filter Catalog will give you valuable technical assistance in a wide range of liquid and semiliquid filtering applications. Send for your free copy. Or submit your particular filter problem to the designing and manufacturing experience of the oldest filter manufacturer in the United States. No obligation, of course.

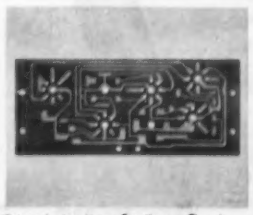
Filtration For Every Known Fluid

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada

For more details circle NED-104 M7 on enclosed inquiry slip

Remarkable cold-punching and cold-shearing laminated plastic with excellent insulating properties.

Synthane P-25



Printed circuit on Synthane Grade P-25, cold punched.

Synthane Grade P-25, only recently announced, was developed to meet the great demand for a cold-punching, cold-shearing laminated plastic with superior dielectric properties. It has high insulation resistance, and low dielectric losses at high frequencies—even under extremely humid conditions. Punches and shears at normal room temperatures. Available in thicknesses ½″ to ⅛″. Available also copper-clad for printed circuitry.

SYNTHANE

SYNTHANE CORPORATION,
N. E. River Rd. • Oaks, Pa.

☐ Send me promptly information about Synthane P-25.
☐ I am interested in other Synthane Grades.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-105 M7 on enclosed inquiry slip

Permanently End Condensation Drip, Rust and Corrosion with NoDrip Plastic Coating!

Here is the inexpensive, easy way to solve your condensation problem once and for all. NoDrip plastic coating acts immediately to insulate and protect tanks, pipes, walls, ceilings, air ducts and other metal equipment against condensation drip, rust and corrosion. NoDrip can be applied by anyone without special experience with brush, trowel or spray. NoDrip is also resistant to acid, alkali and brine...protects concrete, brick, plaster, tile, wood or composition surfaces.

FREE 32-PAGE NoDrip DATA HANDBOOK — Complete with photographs, charts and technical information to help solve your condensation problem. Write today!

Available at leading plumbing and mill supply houses
J. W. MORTELL COMPANY 526 Burch St., Kankakee, Ill.

For more details circle NED-106 M7 on enclosed inquiry slip

ONLY NEW HALLOWELL *ERECTOMATIC* STEEL SHELVING gives you all these plus features

- Fast assembly
- Fast shelf change or addition
- Straight-in, straight-out shelf change
- Independent shelf positioning
- Full use of shelf area
- Common side panels and posts
- Beaded posts and flanged shelves
- Full-depth shelf supports
- 4 classes of shelves

Investigate Hallowell ERECTOMATIC® before buying shelving. You'll find it easy to assemble and rearrange, economical to maintain. It is made of prime steel, is phosphate coated and finished in SPS green baked-on enamel. Other colors are available. Hallowell ERECTOMATIC is sold through leading industrial distributors and shop equipment dealers. Write us for complete information. Hallowell Shop Equipment Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
HALLOWELL SHOP EQUIPMENT DIVISION SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-107 M7 on enclosed inquiry slip

Count on *Continental* for PHILLIPS BITS that OUTLAST OTHER BITS 2 to 1

Repeated tests under assembly line conditions prove that Continental's HY-PRO Phillips bits have an average life *double* that of the best comparable bit. They last longer because they're *forged*, not milled, to concentrate extra strength at the point.

You get uniform, precision fit of bit and recess because HY-PRO Phillips Bits are made from the same Phillips master tools used in making HOLTITE Phillips Screw recesses.

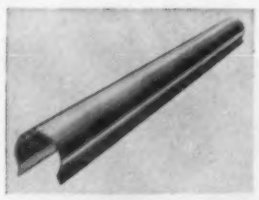
Make your own tests. For details, write Dept. ND.

HY-PRO Power Bit HOLDERS are made in types and sizes to fit all driving tools.

CONTINENTAL SCREW COMPANY, NEW BEDFORD, MASS.
HOLTITE FASTENERS
HOLTITE PHILLIPS AND SLOTTED HEAD
WOOD • MACHINE • TAPPING • THREAD CUTTING • SEMS • NYLOK
HY-PRO PHILLIPS INSERT BITS AND HOLDERS

For more details circle NED-108 M7 on enclosed inquiry slip

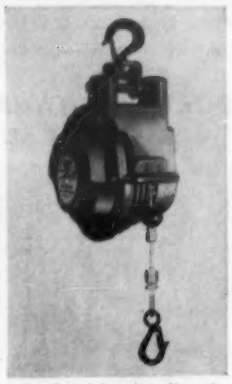
PROTECTOR SHIELD for condenser and boiler tubes



Snap-on stainless steel protector shield or sheath for condenser and boiler tubes deters corrosion and extends life of original equipment. The Snapit-On shields are made in lengths and sizes to insure proper fit and adjustment. Made by **Vince Basnik Co.**, Dept. N, 2020 Center St., Cleveland 13, Ohio.

For more details circle NED-109 M7 on enclosed inquiry slip

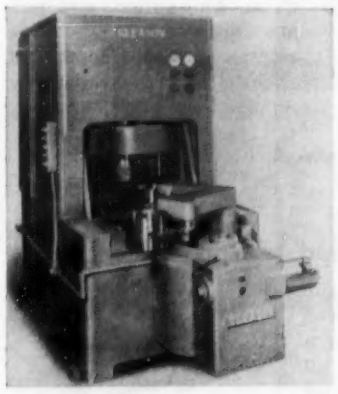
HEAVY DUTY LOAD BALANCER has automatic cable drum lock



Ball bearing upper swivel support and yoke provide this heavy duty balancer with freedom of movement in all directions. Designed to handle loads up to 50 lb, it has an automatic cable drum lock which prevents dropping of the load in case of spring failure. Rapid disassembly and assembly without special tools is possible. Made by **Aero-Motive Mfg. Co.**, 1811 Alcott St., Kalamazoo, Mich.

For more details circle NED-110 M7 on enclosed inquiry slip

LOADER & UNLOADER for Gleason quenching presses



This load and unload mechanism for Gleason No. 16 and 26 quenching presses is cam controlled. A Geneva plate indexes the arms of the unit from the load to unload position. Arms are at 90 degrees to each other. Unit attaches to front of press and is timed with its quenching cycle. It assures positive control of quality since the time element from the furnace to the quenching press is uniform for each part. Presses accommodate round, flat, or irregular shaped parts with up to 25-in. diameters. All stages of the quenching cycle are under close automatic control, and parts are held between precision dies during the cycle to be hardened with minimum distortion. Made by **Gleason Works**, 1006 University Ave., Rochester 3, N. Y.

For more details circle NED-111 M7 on enclosed inquiry slip

KROIL CREEPS IN loosens frozen parts

18,000 industrial users depend upon this amazing new chemical tool when some frozen parts tie up valuable machinery or threaten production. They say . . .

"Kroil will loosen almost anything from an embalmer's needle to a bulldozer."
"We have excellent results loosening stuck slides on musical instruments."
"On a 25-year-old Bessemer gas engine, two bolts twisted off before . . . after using Kroil, they all came out easily."
"Before trying Kroil on heat treat trolleys we broke off every nut . . . since then, we have not lost one."

You too can get these results. Try KROIL on money-back basis.
Gallon, $4.00; with Kroiler squirt gun, $4.95, f. o. b. factory.

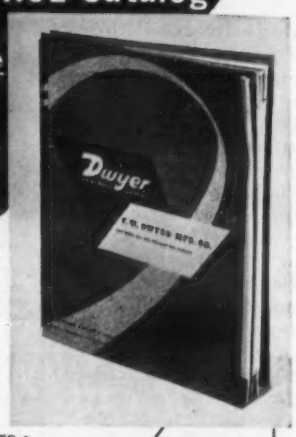
Ask for GENIUS AT WORK—a free publication full of ideas for maintenance men.

KANO LABS. 1074 Thompson Lane Nashville 11, Tennessee

For more details circle NED-112 M7 on enclosed inquiry slip

NEW 72-page GAGE and CONTROL Catalog

..tells where to use them.. ..WHY and HOW!



Illustrates instruments and gages...*diagrams* their installation and on-the-job use... *charts* valuable performance data.

For the efficient measurement of combustion • draft • pressure • flow • vacuum • CO_2 • smoke • velocity • static pressure • pressure differential • temperature • and others.

Write for your free copy of this valuable book today!

Dwyer CONTROLS GAGES

F. W. DWYER MFG. CO.
P.O. BOX 373-Q, MICHIGAN CITY, INDIANA

For more details circle NED-113 M7 on enclosed inquiry slip

One customer tells another about the BRUNT FAULTFINDER

RAYTHEON says, "Since purchasing the Brunt Faultfinder we have had several occasions to use it. We find that it will locate a ground accurately and fast."

JOHNS-MANVILLE says, "The Faultfinder is quite a time saver and can clear up a ground much quicker than by the old method of elimination of circuits".

CIBA says, "We use the Brunt Faultfinder often and find it a very useful instrument. It saves a lot of time".

BAKELITE says, "This piece of equipment has been very useful in finding grounds and is a time saver. It has enabled us to trace grounds without shutting the equipment down".

These remarks are taken from just four of the many letters we have in our files from satisfied customers of the **BRUNT FAULTFINDER.**

Put the BRUNT FAULTFINDER to work for you

Universal Model #58
(110V to 600V, AC or DC)
$550.00

FEATURES:

- Locates faults on ungrounded wiring systems up to 600 volts, AC or DC, while they are energized.
- No necessity to pull switches or tie up production.
- Combination Ground Detector and Fault Locator.
- Imposes only 2 amps on circuit—cannot damage equipment on line.
- Traces pole line signal without climbing, locates underground cables or pipes.
- No delicate meters to adjust.
- Light, compact and durable.
- Easy one-man operation.

Send for free, illustrated booklet

PARR MANUFACTURING CORP.
44 AUSTIN ST., NEWARK 2, N. J.

For more details circle NED-114 M7 on enclosed inquiry slip

WOLVERINE turntable DOWN DRAFT dust collecting benches

Save Operating Time, Improve Work

Revolving turntable permits continuous operation with no time lost in repositioning the casting.

PLUS — Superior dust collection due to higher down draft velocity (standard 300 feet per minute or, if application requires, velocities up to 800 feet per minute). Heavy duty industrial viscous filters in rear compartment remove dust from air stream and axial flow fan in top of compartment exhausts air vertically indoors or out, as required.

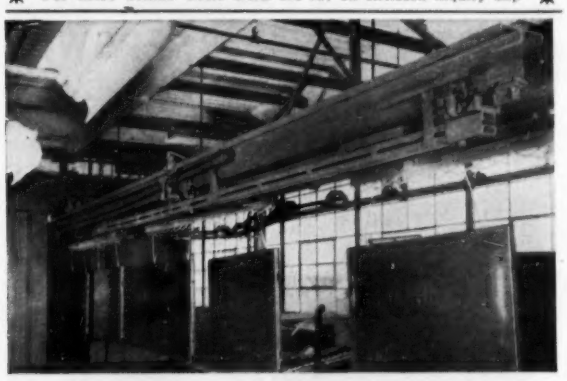
This makes the perfect system for collecting dust from grinding, polishing and sanding operations.

Write for bulletin describing both the Turntable and Standard Wolverine Rectangular Dust Collecting Benches.

Dept. N

WOLVERINE EQUIPMENT CO.
31 MAIN STREET, CAMBRIDGE 42, MASS.

For more details circle NED-115 M7 on enclosed inquiry slip



Automatic Finishing . . . Power LANDAHL and AMERICAN MONORAIL

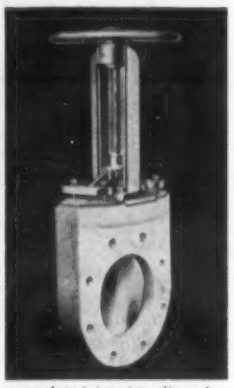
Space was saved and automatic finishing achieved by combining two overhead handling systems.

American MonoRail cars carrying metal panels move through degreasing, priming, finishing and baking. In each operation either loading or unloading is performed automatically by power—the Landahl Chainless Conveyor acting as a "pusher" over most of the system. To cut your handling costs, write today.

AMERICAN MONORAIL COMPANY
13116 ATHENS AVENUE • CLEVELAND 7, OHIO

For more details circle NED-116 M7 on enclosed inquiry slip

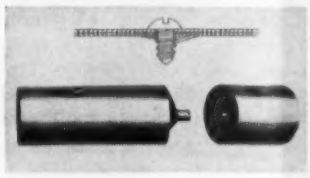
PLASTIC-BODY VALVE resists chemical corrosion



Body of this stock gate valve is glass fiber reinforced with a high impact polyester resin for strength and resistance to chemical corrosion. Corrosion resistance is said to exceed that of stainless steel. Sizes for most pipe lines are available. Rovalves catalog No. 420 gives results of tests with various chemicals. Made by **W. G. Rovang & Associates, Inc.**, Dept. NE, 1945 N. Columbia Blvd., Portland 17, Oreg.

For more details circle NED-118 M7 on enclosed inquiry slip

THREAD-HOLE PUNCHES & DIES form screw hole in sheet metal



Screw receiving element is produced in flat or curved-surface sheet metal by R-B thread - hole forming punches and die buttons. Each stroke of the press punches a hole, lances a radial slit, and forms the surrounding metal into a spiral cone that conforms to the screw thread pitch. Ball lock punches and die buttons are quickly inserted or removed from their retainers. They are available for 6-18, 8-15, 10-12, 12-11, 14-10, and 20-9 screw sizes. Made by **Allied Products Corp.**, Richard Brothers Punch Div., 26482 Capitol Ave., Detroit 39, Mich.

For more details circle NED-119 M7 on enclosed inquiry slip

SCHEDULE CALENDAR BOARD designed for production control

Large date spaces for erasable notes are a feature of the 25 - year reminder type Sked - U - Cal wall calendar with changeable monthly calendar cards. Suited for planning and scheduling jobs, orders, deliveries, programs, and meetings, the board is about 2 ft square. Built of Masonite, it holds a set of monthly calendar cards. The appropriate monthly card is slid into place, having been selected by a code which makes them usable for 25 years. Laminated plastic surface can be marked on with black or colored marking pencils (one red and one black are furnished) and wiped clean with a cloth or tissue. Made by **L. D. Blehart Co.**, Dept. D, 10 Fiske Place, Mt. Vernon, N. Y.

For more details circle NED-120 M7 on enclosed inquiry slip

PORTELVATOR®

The Handy HAMILTON Portable, Elevating Table

5607

NEW DEVELOPMENTS PROVIDE EASY MOVEMENT of SHEETS PLATES BARS TUBES PIPES TOOLS DIES FIXTURES ALL COMPACT HEAVY LOADS

MORE SERVICE for LESS MONEY than ANY Other Unit of Equipment

Four-Wheel and Six-Wheel Models

4 table surfaces
3 point support

NEW, FREE LITERATURE TELLS ALL! Ask for Bulletin P-5607. Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

UNOBSTRUCTED PERIMETER • WORK FROM ANY SIDE

IT'S A Hamilton Tool — USE IT WITH CONFIDENCE

For more details circle NED-121 M7 on enclosed inquiry slip

Big or Small

We'll retread them —*in just two weeks*

NO NEED to discard a caster wheel, once the tread of your industrial tire wears down. Most sizes can be restored to "like-new" condition by molding-on new rubber. We'll apply a factory-proved Goodyear retread—*in fourteen days or less.*

Here's how to take advantage of this time- and money-saving service:

1. Ready the wheels for shipment—remove bearings, races, washers and grease fittings—then turn them over to your Goodyear dealer for shipment to Goodyear Akron.

2. When we receive your wheels, we burn off the old rubber, shot blast the wheels and inspect them thoroughly. Next, we carefully weigh out the new rubber for each wheel and mold it on to factory specifications.

3. We ship your reconditioned wheels back to the Goodyear dealer, for delivery to you.

New wheels, with or without bearings, are available to replace chipped or broken wheels. Call your Goodyear dealer, or write:

Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Look for this sign; there's a Goodyear dealer near you.

Use the Right Tire for the Job—Buy and Specify

GOODYEAR INDUSTRIAL TIRES

For more details circle NED-122 M7 on enclosed inquiry slip

NEW! Basic Weight Classifier

For sorting of items by weight

Exact Weight's new Basic Classifier, employing Shadograph Scales with photocell controls, provides light signals which indicate correct weight, or over or under within pre-set limits. Accuracy is increased far beyond the scope of visual sensitivity.

The Shadograph-Controller offers a fast, accurate method for classifying, and for process control, of products and packages. It is also used in production line inspection of metal assemblies for missing parts and for checking contents of closed packages.

Any number of classifications can be obtained, from 2 to 128, and items of any shape or size can be handled in a capacity range from 2000 milligrams to 100 pounds.

The control system not only provides light signals, it may be used to actuate automatic transfer mechanisms, chart recorders for statistical and quality control; and to operate counters or alarm signals. Write for Bulletins 3333 and 3347.

Exact Weight SCALES

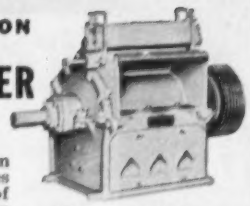
THE EXACT WEIGHT SCALE CO.
930 W. FIFTH AVE., COLUMBUS 8, OHIO
In Canada: P.O. Box 179, Station S, Toronto 18, Ont.

BETTER QUALITY CONTROL . . . BETTER COST CONTROL

For more details circle NED-117 M7 on enclosed inquiry slip

FOR GRANULATING UNIFORM PARTICLES IN LARGE VOLUMES!

SPROUT-WALDRON ROTARY KNIFE CUTTER



Write for Bulletins 141 & 101

The Sprout-Waldron Knife Cutter produces granular particles of more uniform size than is obtainable through most other types of machines . . . at great capacities. Unique arrangement of knives and screens assures clean-cut uniform particles. Customary frictional heat is reduced. Ideal for pre-cutting rags or leather . . . flocking continuous strips of alpha pulp . . . granulating cork or thermoplastic stock . . . and for hundreds of other uses.

For all other problems, too, involving single or combined phases of size reduction, Sprout-Waldron has your one best answer. Complete lines of crushers, hammer, roller, and attrition mills, and equipment for feeding and removing materials from these units are available. And our long years of experience in planning and designing size reduction installations are at your service. Write for details.

IN/501

SPROUT-WALDRON
Manufacturing Engineers Since 1866
8 LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

For more details circle NED-124 M7 on enclosed inquiry slip

Your PARKER tube-working tools

- For cutting, bending, flaring all types of tubing.
- Easy-to-use, efficient tools to produce bends without wrinkling or perceptible flattening.
- No slippage of tubing; no guesswork about degree of bend.
- Get accurate, full flaring and clean, square-end cutting with Parker tools.
- For full information, send for Catalog No. 1140.

PARKER FITTINGS AND HOSE DIVISION

Parker Hannifin
creative leader in fluid systems

Order from your Parker Distributor — or Parker Fittings and Hose Division, Section 433-Y, Parker-Hannifin Corp., 17325 Euclid Avenue, Cleveland 12, Ohio

For more details circle NED-125 M7 on enclosed inquiry slip

USG®

BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

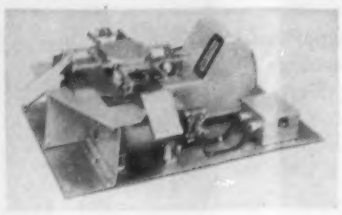
There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.

B-243-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

For more details circle NED-126 M7 on enclosed inquiry slip

AUTOMATIC CHECKWEIGHER can prove weight accuracy to one part in 20,000



Capacities from 1 gram up to 100 lb are available in the line of Selectrol automatic checkweighing machines, capable of proving weight accuracies from one part in 5000 up to one part in 20,000. Model 144 employs rotary transfer mechanism with one loading station, one weighing station, and two discharge stations. Model 145 incorporates an in-line "walking deck" transfer mechanism, whereas other designs use conveyor belts and air-powered deflecting gates to shunt products into numerous weight classification channels.

Control system consists of direct reading crystal photocells on adjustable mountings alongside the optical reading scale dial. Models 144 and 145 handle up to 30 weighings per minute, whereas other models are capable of 120 weighings per minute. Optional accessories include recorders, counters, and visual and audible signaling devices. Made by **Exact Weight Scale Co.**, 930 W. Fifth Ave., Columbus 8, Ohio.

For more details circle NED-127 M7 on enclosed inquiry slip

BORING MACHINE hole capacity is 5/16 to 4¼ in.

Tooling which cuts at very high speed with good accuracy and finish can be used in the LeBlond-Carlstedt Rapid Borer which will bore, trepan, or

counterbore long holes from 5/16 to 4¼ in. diameter. A large range of work sizes can be handled. It is also suited for work that is, or can be made symmetrical for balance in rotation, whether it be round, square, octagonal, tapered, or stepped.

Cutting oil is forced between the boring bar and hole wall, forming a continuous bearing. By flushing coolant back through a hole in the boring head and bar, chips are carried away. Chip form is controlled by tool angles, and proper feed and speed combination. No. 15, 30, and 60 sizes are offered with infinitely variable feeds, independent of speeds, while running under load. Made by **R. K. LeBlond Machine Tool Co.**, 1950 Edwards Rd., Cincinnati 8, Ohio.

For more details circle NED-128 M7 on enclosed inquiry slip

DUST and SPRAY PROTECTION

BROAD VISION RESPIRATOR HOOD

Pat. No. 2537265 . . . Fitted with U.S. Bureau of Mines Approved type respirator

WEIGHS ONLY 11 OUNCES

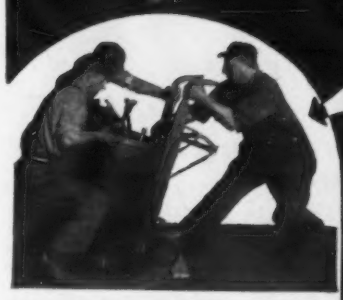
Lighter. Cooler. Unobstructed vision in all directions. No interference with work to be performed. Used to advantage on many maintenance and production operations.

WRITE FOR BULLETIN NO. 32

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-129 M7 on enclosed inquiry slip

In Your Plant THERE ARE PICTURES LIKE THIS



If YOU HAVEN'T CHANGED TO THE SABIN BARREL TRUCK

Sabin ONE MAN way of handling barrels and drums saves labor.

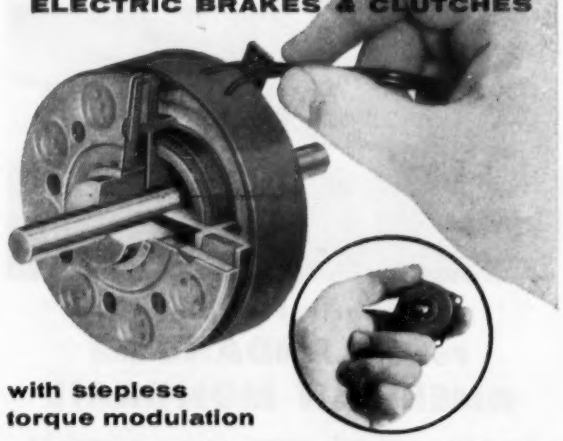
This method is simple. You run truck up to container, hook on at top and pull back on handle to pick up loads weighing as much as 800 pounds.

Third Wheel Feature gives better balance—and makes handling safer, too.

WRITE FOR BULLETIN NO. 48-A
Sales representatives wanted in several territories.
THE SABIN MACHINE CO.
6536 Carnegie Ave.
CLEVELAND 3, OHIO

For more details circle NED-130 M7 on enclosed inquiry slip

FRACTIONAL HORSEPOWER
ELECTRIC BRAKES & CLUTCHES



with stepless torque modulation

Reliable operation . . . easier, automatic control . . . faster response . . . and reduced costs are reported by machine manufacturers who have adopted these small, compact brakes and clutches. Use them on through- or split-shaft rotary drives without major design change. Easily wired into standard machine circuits. Complex and costly linkages are eliminated. No slip rings and brushes. Only 6 to 15 watts of d-c to energize the magnet for split-second, positive operation. Virtually no lateral movement. Torque ratings to 240 in. lb.

WARNER

Beat competition with
ELECTRIC BRAKES AND CLUTCHES
Industrial Division
Warner Electric Brake & Clutch Co., Beloit, Wis.

For more details circle NED-131 M7 on enclosed inquiry slip

Cut Costs with Molded Plastics by Richardson

You can cut costs, increase profits, by replacing metal components with Richardson molded plastic parts. Molded plastic is strong, lightweight, corrosion resistant. Color is molded in. Pieces need little or no finishing.

Analyze the materials and assembly costs in your products. Keep in mind the fact that plastics are now being used for housings, washers, gears, valves, pump impellers, washing machine agitators, switches, light sockets, cameras, and thousands of other items. Each use represents savings in material, assembly, or unit costs.

For cost-cutting counsel, send a print of your product—or ask for Richardson engineering service. There's no obligation . . . and there may be profit for you.

Write to Dept. 20 for Richardson MOLDED CATALOG.

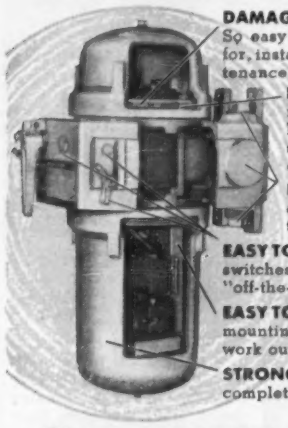
The RICHARDSON COMPANY
2798 Lake Street, Melrose Park, Ill. • Chicago Phone: Mansfield 6-8900

For more details circle NED-132 M7 on enclosed inquiry slip

NEW SPIN TOP ENCLOSURE FOR HAZARDOUS LOCATIONS

4 SIZES for Starters 0 thru 5

CLASS I, GROUP C and D • CLASS II, GROUP E, F, and G



DAMAGE-RESISTING Acme thread. So easy to put on and take off tanks for installation, inspection or maintenance.

REAL PROTECTION against rain, dust, dirt and weather because male threads on collar section engage female threads on tank.

INCREASED WIRING SPACE and through-feed conduit entrances for horizontal tap-offs.

EASY TO ADD pushbuttons or selector switches with easy-to-buy, easy-to-use, "off-the-shelf" parts kits.

EASY TO INSTALL • "Slide and Hook" mounting arrangement takes the hard work out of the installation job.

STRONG and LIGHTWEIGHT • The complete enclosure is cast aluminum.

Write for BULLETIN 9990. Square D Company, 4041 North Richards St., Milwaukee 12, Wis.

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

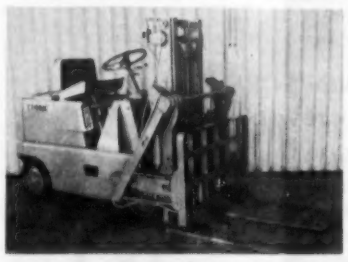
▲ For more details circle NED-133 M7 on enclosed inquiry slip ▲

CARBIDE GRINDING TOOLS operate at 2000 to 3000 sfpm

Stock is removed at a high rate of speed with no tool loading, a minimum of heat, and no dressing by this line of solid carbide grinding tools. Recommended operating speeds are 2000 to 3000 sfpm. They are adaptable to most jig and standard internal grinders. Recommendations for specific operations are available from the manufacturer, **Dexco Corp.**, Raymac Div., Dept. N-1, 15490 Dale Ave., Detroit 23, Mich.

▲ For more details circle NED-136 M7 on enclosed inquiry slip ▲

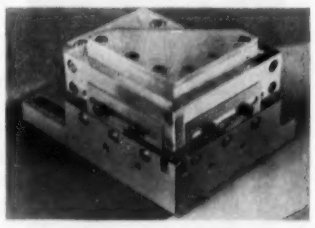
PALLETLESS HANDLER attachment for fork trucks



Loads are carried on a thin steel sheet instead of conventional pallets when handled by the Pul-Pac attachment. Consisting of a load carrying plate, pusher rack, and gripper jaw, the device reduces storage space requirements. It is usable on Clarklift Model 30, 40, and 50 solid-tire fork trucks; gas and electric powered Carloader models; and the Y40 pneumatic tire truck. A flap at the edge of the sheet is gripped by hydraulically-actuated jaws and the sheet plus load is pulled onto the load carrying plate. An upright pusher rack with up to 50 in. of forward travel removes the load. Capacities vary from 1800 to 3700 lb at 24-in. center, depending on truck capacity. Made by **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

▲ For more details circle NED-137 M7 on enclosed inquiry slip ▲

CORNER NOTCHING UNIT cuts notch in 1/8-in. steel



Removable, reversible punch and die blades are used in this "NA 3/4" 90-degree corner notching unit for use in presses and brakes. Readily mounted close to other units in set-up, this independent notching unit has guided self-stripping punch. It is made in 3 x 3-in. and 5 x 5-in. sizes, right or left hand, with or without adjustable side gage plates, or with built-in graduated gage table. Capacity ranges to 1/8-in. mild steel. Made by **Wales-Strippit Co.**, Buell Rd., Akron, N. Y.

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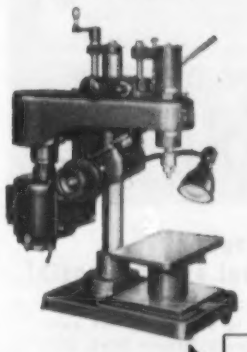
HAMILTON SUPER SENSITIVE, SMALL-HOLE

PRECISION (REPEAT) PRECISION

DRILLING MACHINES

"for the finest work you do"



Designed and built to *master* the heart-breaking jobs which so often are attempted on drilling machines of "standard" accuracy.

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ADDRESS

THE HAMILTON TOOL COMPANY
901 Hanover Street
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IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

2468

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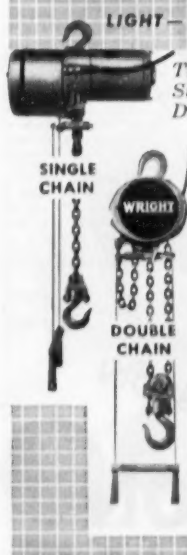
NEW WRIGHT Electric Chain Hoists

LIGHT—COMPACT—RUGGED—LOW COST



Two capacity ranges as pictured—
Single Chain 300 to 2000 lbs.
Double Chain 3000 to 4000 lbs.

Long Life • Safety • Minimum Maintenance are assured by these sound features:—Wick Oiling of Load Chain gives a working life many times greater than dry chain ...Fewest Moving Parts of any chain-type electric hoist cuts maintenance...Alloy Steel Load Chain is heat-treated for long-wearing surface, with ductile core to resist shock loads—side-pull won't break this flexible chain...Load Wheel Hooks and Hook Couplings are drop-forged alloy steel...Worm and Gear Drives serve as simple, positive Load Brake, and there's a big, efficient Motor Brake, easy to adjust for lining wear. For complete information, write York, Pa., for **Bulletin DH-73.**

Wright Hoist Division
AMERICAN CHAIN & CABLE
ACCO

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

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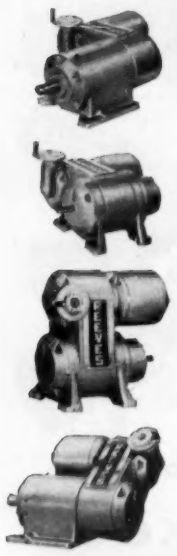
NEW!

REEVES Vari-Speed MOTODRIVES

Sizes 200-300 for 1-5 hp.



● Hundreds of space-saving, space-fitting *standard* assemblies. Available in "C" flow or "Z" flow models, the new sizes are versatile additions to the full line (1-40 hp.) of REEVES Motodrives.

Write for your free copy of new catalog—Dept. ND33d-M571.

REEVES PULLEY COMPANY
Division of **RELIANCE Electric & Engineering Co.**
COLUMBUS, INDIANA

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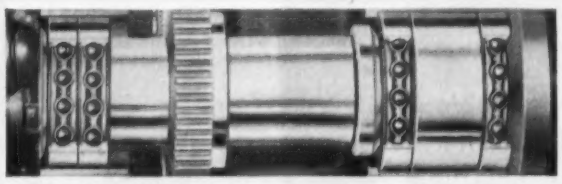

PRE-SET FOR PRECISION...

Spindles on Logan Lathes need no bearing adjustment

WHETHER you run a Logan Lathe fast or slow, under heavy or light loads, the factory pre-set ball bearing spindle requires no bearing adjustment. It retains its original accuracy far longer than a plain or tapered roller bearing spindle.

Logan screw cutting and turret models (9, 10, 11, 12 and 14" swing) are world renowned for sustained accuracy in high speed production or second operations. Catalog on request.

LOGAN
ENGINEERING CO.
4901 Lawrence Ave., Chicago 30, Illinois

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For Short Cuts and Savings in Engineering Drawing Reproduction

Kodagraph Reproduction Materials eliminate tedious retracing . . . produce better shop prints . . . simplify print production. Whether you make your own prints or use a blueprint, it will pay you to know them.

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Graphic Reproduction Division
Rochester 4, N. Y.

Kodak

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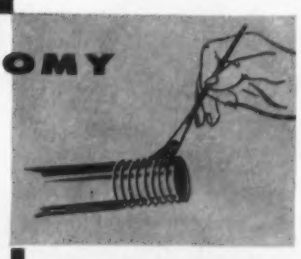
FOR ECONOMY KEY Graphite Paste



Smooth brushing **KEY** Graphite Paste goes further, goes on faster, penetrates to thread roots easier than just ordinary "pipe dope." Sets soft for economical, time-saving break out of joints and seals.

No Waste with KEY Graphite Paste.
KEY Graphite Paste thickened by excessive exposure in open can is quickly restored to smooth brushing consistency by the addition of just a few drops of water.

Distributed by Leading Supply Houses

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KP-9703

W-K-M
DIVISION OF ACF INDUSTRIES INCORPORATED
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KEY is a registered trademark of ACF Industries, Incorporated

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Write for Wheeler New Product Data Sheet No. 100 D

Delivers TWICE the amount of lumen output per foot of lamp length!

Two outstanding Wheeler units — Power-Lume F and Power-Lume V — specifically designed to utilize fully the extra illuminating power of the new Power Groove Lamp. Both fixtures are designed for all medium to high mounting applications . . . provide more comfortable seeing, cooler lamp operation, thanks to Wheeler's unique diffuser apertures that direct MORE than 20% of the light upwards.

WHEELER REFLECTOR CO.
(Division of Franklin Research Corp.)
275 Congress St., Boston, Mass.
Distributed exclusively through electrical wholesalers.

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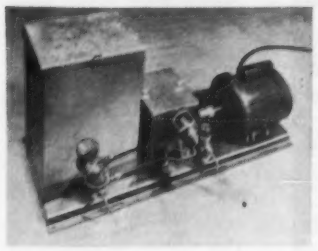
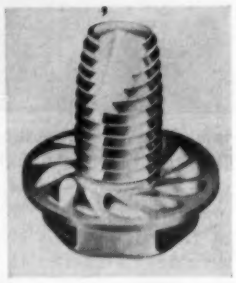
CHEMICAL INJECTOR PUMP operates against 1200 psi pressures



Motor - driven Model SAC-4000 chemical injector pump accurately injects measured amounts of liquid chemicals into flow lines and pressure vessels. Pump is operated by ¼-hp, 1750-rpm motor through a 50:1 reduction worm gear assembly. Output can be preset from a few ounces to 40 gal in a 24-hour period, with one injector head. Pumps are available with ½, ⅜, or ¼ in. piston-injector head assemblies for operating against 250, 500, and 1200 psi, respectively. Pumps can also be driven by explosion-proof motors, air-gas turbines, or light-duty ¾-hp gasoline engines. Made by **Texsteam Corp.**, Dept. 78, 320 Hughes St., Houston 11, Tex.

▲ For more details circle NED-146 M7 on enclosed inquiry slip ▲

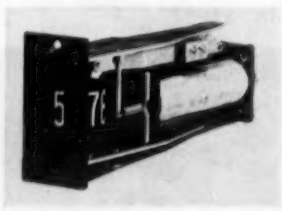
THREAD-CUTTING SCREW eliminates screw stripping



Applications that have but little screw thread engagement are served by the Nibscrew, a thread-cutting screw with "nibs" or protrusions under the head. They act as a brake so that the head, rather than the threads, take up the tightening torque. This permits a broad range of driver settings. Sizes from No. 4 to ¼ in. are available with pan, truss, and hexagon washer heads. Made by **Illinois Tool Works,** Shakeproof Div., 2503 N. Keeler Ave., Chicago 39, Ill.

▲ For more details circle NED-147 M7 on enclosed inquiry slip ▲

IMPULSE COUNTER made in 10 contact arrangements



Normal or backward counting up to 25 impulses per second, transmission of a remote numerical indication to a central location, and remote presetting for predetermining control are three uses for the Sodeco Type 1TD electric impulse counter. It has a single figure drum, measures ⅞ x 1¾ x 4⅜ in., and is suitable for flush mounting. Ten different contact arrangements are available. Counter can be used independently as a decade, or interdependently as a multidigit counter. Made by **Landis & Gyr, Inc.,** Dept. N, 45 W. 45th St., New York 36, N. Y.

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25% to 40% faster cutting

Hundreds of industrial plants report actual increased sawing production of 25% to 40% and a higher quality work with use of Foley precision saw filing equipment. They get longer saw life, less breakage and lower maintenance costs. One firm reports an annual saving of $350.00.

if you use saws, send for this FREE BOOK

Proof of these savings is in a helpful 56 page book we have for you. This free book is based on many years' use of Foley Saw Filers in thousands of plants. It contains pictures and detailed data on how these firms save money—how you can benefit. Request Manual No. 100; no obligation.

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every day, designers are discovering new ways to make products better, more efficient...with

Precision manufactured from DuPont Nylon Resin to close tolerance of ±.001 on diameters and .0005 on sphericity, Ace Nylon Balls give **design flexibility** and **production economy.** Light in weight . . . tough at low temperatures . . . stable at high temperatures . . . resistant to corroding chemicals such as sulphuric acid, etc. . . almost abrasionproof . . . these mass-produced balls have hundreds of industrial applications. Come in 14 standard sizes from ⅛" to ¾". Complete facilities for fabrication of plastic parts for all industries. Estimates submitted promptly on receipt of blueprints or specifications.

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Free! THIS ONE-VOLUME LIBRARY ON OVERHEAD CONVEYOR

More than a dozen industrial applications of overhead trolley conveyors are illustrated in this One-Volume Library on Overhead Conveyor. Helpful facts are detailed on specifications, installation, and the care and use of this equipment in transportation, processing, assembly operations, storage. Bound to be profitable reading if you're interested in low-cost solutions to materials handling problems. Write for it now, while stamps are still only 3c. Free on request. No obligation, of course.

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SCHERR PRECISION MEASURING TOOLS

MAUSER VERNIER CALIPER STAINLESS STEEL

NEW VERNIER SLIDES ARE NOW DULL CHROMED

$14.75 Reading in .001"

The NEW #101 Mauser Vernier Caliper is now made entirely out of Stainless Steel - and features double length Vernier, new gib construction of slide, quick-acting cam lock, etc.
Measuring cap. 5-5/16" outside, inside and depth.

MAUSER VERNIER CALIPER WITH NEW COMBINED FRICTION CAMLOCK AND FINE ADJUSTMENT SCREW

Intended for work of highest precision.
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Hardened 6" blade. "Lustro-Chrome" finished measuring face.
Special Chrome Steel $22.50
Stainless Steel $25.50
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NEW MICRO PROJECTOR $375.00 BASE PRICE

GEO. SCHERR CO., INC.
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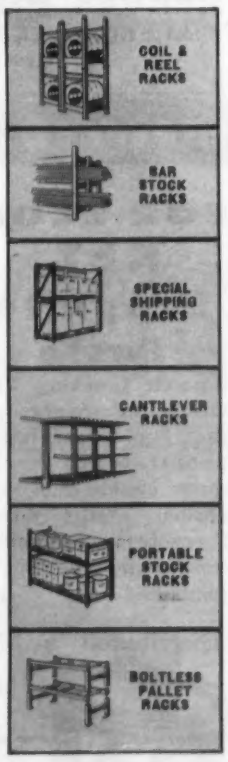
Stacking Problem? call EMI

anything can be **"well stacked"** or shipped on EMI racks

Big or little, strong or fragile, *anything* stacks or ships better on EMI quality racks. They protect stock, cut handling costs and speed inventory.

EMI RACKS are made of strong, tubular steel and are adjustable to fit any space or unit load. Special racks designed to your specifications with field engineering service on any installation.

Write for our illustrated catalog before you plan additional storage space or the purchase of stacking or shipping equipment.



Well Stacked Racks for Industry

EQUIPMENT MFG. INC.

21566 HOOVER ROAD DETROIT 5, MICHIGAN

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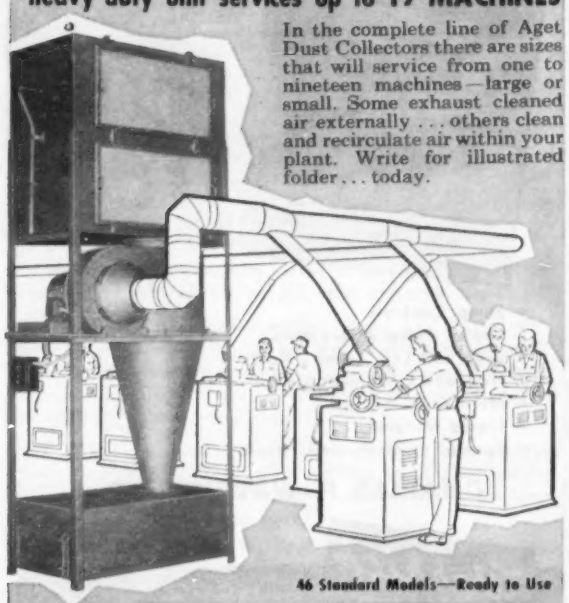
just ONE DUSTKOP STOPS DUST

heavy duty unit services up to 19 MACHINES

In the complete line of Aget Dust Collectors there are sizes that will service from one to nineteen machines—large or small. Some exhaust cleaned air externally . . . others clean and recirculate air within your plant. Write for illustrated folder . . . today.



46 Standard Models—Ready to Use

AGET manufacturing company
1396 Church Street • Adrian, Michigan

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REVOLVATOR GO-GETTER The MOST COPIED LIFT TRUCK On The Market

FOR YOUR CONVENIENCE . . . Illustrated in this index are basic types of both Red Giant hand lift and Go-Getter electric lift trucks. Select the type best suited to your operation.

REVOLVATOR CO.
8732 TONNELLE AVE., NORTH BERGEN, N. J.

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Make Southern your stock room. Simplify procedure. Save your time. End the confusion of ordering from two or more manufacturers. At Southern, miles of screws and bolts are kept ready to insure prompt shipment from stock . . . Warehouse in your territory to give you overnight service.

Every Southern fastener made to rigid Federal specifications. Steel, brass, silicon bronze, aluminum, and stainless steel. Phillips or slotted head, flat, round or oval.

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Southern SCREW COMPANY
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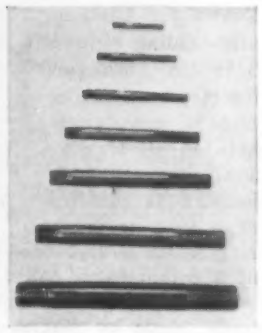
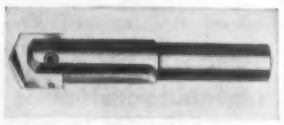
HIGH STRENGTH STUDS
easily machined and threaded



Hardened to Rockwell 25C, these studs of Stressproof steel have a tensile strength of 125,000 psi and a minimum yield strength of 100,000 psi. It is reported they can be machined or threaded as easily as cold rolled steel. Sizes from ¼ to 1 in. diameter are offered in lengths from 1½ to 20 in. Made by **Northwestern Tool & Engineering Co.**, 127 Hollier Ave., Dayton 3, Ohio.

For more details circle NED-155 M7 on enclosed inquiry slip

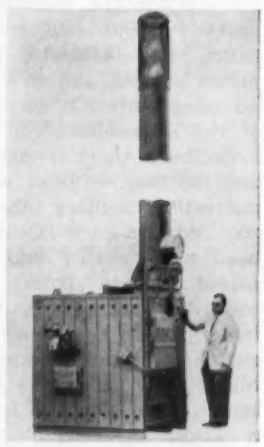
SPADE DRILLS
for hard-to-machine metal, castings



Coolant circulated internally through the shank and directed outward against each cutting edge insures maximum blade life for Clark spade drills. Designed for production drilling in heat treated alloy steels, stainless steel, titanium, and other hard-to-machine metals and castings, the replaceable spade type drill blades are made of Type M-3 high speed steel. Each shank accommodates a number of individual blade sizes ranging from 1 1/6 to 5-in. OD. Larger sizes can be ordered. Made by **Robert H. Clark Co.**, Dept. 250, 9330 Santa Monica Blvd., Beverly Hills, Calif.

For more details circle NED-156 M7 on enclosed inquiry slip

PACKAGED INCINERATOR
has insulating refractory lining

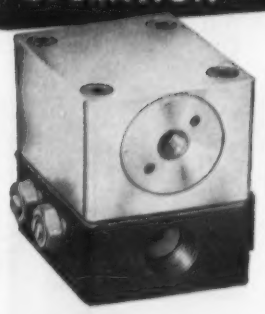


Fully lined with insulating refractory materials, this prebuilt, packaged incinerator has a secondary combustion chamber designed for maximum gas travel and ash retention. The steel casing provides air cooling for the refractory walls. Split-guillotine type charging doors are counterweighted for an air-tight fit when closed. Cast iron grates are included. Incinerators are shipped fully assembled as shown, or in panels for assembly by unskilled workers. Sizes for 100 to 500 lb per hour of Type I wastes are available. Accessories include breeching, stack, barometric damper, spark arrester, guillotine damper, and gas or oil burner. Made by **Denver Fire Clay Co.**, 3029 Blake St., Denver 5, Colo.

For more details circle NED-157 M7 on enclosed inquiry slip

AUTOMATION AT LOW COST . . . ON ANY OPERATION

WITH THE CARTER Cartridge AIR VALVE

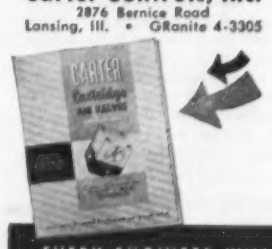


Now, completely automate *any* air cylinder operation. Speed up production with positive, fast action cycles. Solenoid or air poppet control. Stainless steel and nylon wear-parts for long wear. Ask your Carter representative or write.

Carter Controls, Inc.
2876 Bernice Road
Lansing, Ill. • GRanite 4-3305

IT'S UNITIZED!
- Cartridge Solenoids
- Cartridge Lever or Palm Poppets
- Cartridge Power-Head
- Nylon and Stainless Wearing Parts
- Corrosion Proof Construction
- Built-in Speed Controls
- Simplified Maintenance

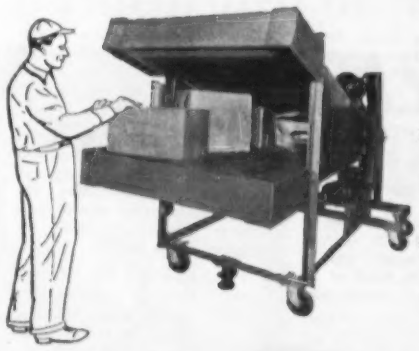
Once installed, all working parts may be replaced without removing valve or disturbing any existing pipe connections.



EVERY ENGINEER WILL WANT A COPY OF THIS NEW BULLETIN

For more details circle NED-158 M7 on enclosed inquiry slip

The "MAW" that Collapses and Shreds anything that belongs in a paper bale!



Specifications:
Floor space required: 68"x97"
Net weight 4,700 lbs.
Shipping weight 5,000 lbs.
Knives powered by heavy-duty, 15 h.p., 3 phase, 60 cycle motor—220 or 440 volts.
Individual motors for crusher belts.
Reversing switch on belts and knives.
For continuous operation as fast as one man can feed.

Costly labor to prepare boxes for shredding is unnecessary with the Silver "40 A". Cartons and paper boxes are both crushed and shredded for simplified baling.

Shredded material can be fed directly into baler or carried away by pneumatic or conveyor system.

Send for complete information about the Silver "40 A" (one of 11 models) today.

Industrial Shredder and Cutter Company
700 S. ELLSWORTH AVE. • SALEM, OHIO, U. S. A.

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HEAVY MONEL BELLOWS Automatically adjust to pressure

ROTARY UNION MECHANICAL SEAL Does the Job!

SEAL RING Optically flat surface assures perfect seal

The precision mechanical seal of the Rotary Union stays right long after other joints are leaking — without adjustments or mechanical maintenance. Saves on fluids and gases — on parts — and on maintenance labor. There is a Rotary Union for every rotating joint application in pipe sizes from ¼" through 3" and in 40 types and sizes. For full information contact our nearest office or write for Bulletin 800D.

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332 Atando Ave. Charlotte, N. C.
Baltimore—Camden, N. J.—Chicago—Cleveland—Los Angeles—New York—Providence—Montreal—Toronto

For more details circle NED-160 M7 on enclosed inquiry slip

BOSTITCH T20 SERIES AIR DRIVEN TACKERS

Squeeze the trigger of a Bostitch T20 Tacker as fast as you can. Every squeeze drives a rugged staple into materials like tempered Masonite and hard woods. Air pressures from 35 to 85 p.s.i. Wide range of staple sizes. Loads unusually fast. Converts quickly from flat base to extended nose to suit the work. *Many other features!*

Look up "BOSTITCH" in your phone book, or write for bulletin to Bostitch, 692 Briggs Drive, East Greenwich, Rhode Island.

Fasten it better and faster with BOSTITCH® STAPLERS AND STAPLES

For more details circle NED-161 M7 on enclosed inquiry slip

HOW MUCH . . . Should An Air Valve Cost?

The answer to this question may recall Lincoln's reply to the Kentuckian who inquired how long a man's leg should be: "Long enough to reach the ground!"

● The money you spend for a valve should "reach the ground" in service and dependability. You alone can say how much to spend. You probably select the valve you need and then pay the price.

● This is about BACHMAN valves. For your application, our 4-way model S845EC, 110 v, with ¼" ports may be the right valve at the right price—$16.75. It has 5/16" orifice, O-ring seals and the solenoid closes with force of 14 lbs. against an 8 lb. spring loading.

HAS INDIVIDUAL EXHAUST ADJUSTMENTS FOR 2-way speed control of a double-acting cylinder.

● Solenoid draws 4 amps. inrush, but only 25 watts holding. It will perform several hundred cycles a minute with a life of 2 or 3 million cycles. Optional solenoid cover is open at one end. (If you require 20 million cycles you probably will pay more than $16.75.

● Thousands of these valves are in use throughout America and Europe, principally on automatic production equipment. They are considered low-cost valves. (Our customers are spending dollars for performance, not prestige.)

● If you have read this far, you must be concerned with control valves and their cost. Why not order one of ours right now, by mail, to look at or try. It is 8" long, weighs 2 lbs. and we will take it back if you still feel you should pay more than $16.75.

John D. Bachman and Company
2301 Sparger Lane
Bristol, Tennessee

▲ For more details circle NED-163 M7 on enclosed inquiry slip ▲

Brinell Testing at Production Line Speeds

Test round or flat parts fast, right in the production line. No grinding necessary. Operator simply notes that needle reads between pre-set tolerance hands. Hydraulically applied standard Brinell loads are used. Foot control allows operator to test parts as quickly as he can move them through.

Long stroke models also available.

Write today for more information

DETROIT TESTING MACHINE COMPANY
9394 Grinnell Avenue, Detroit 13, Michigan

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PRODUC-TROL-Visual Control

not only schedules,
automatically checks with
But TIME, LINE and COLOR control

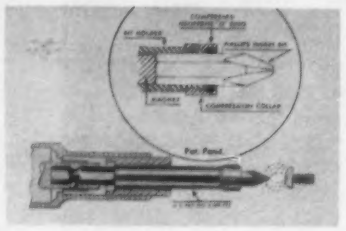
- Original cost and upkeep low.
- Schedules and time checks operations.
- Historical record to back it up.
- Bad situations show automatically.
- Its simplicity has put it into world-wide use.
- Analyze 100 items in 10 seconds.

Effective Tools for Effective Management
WASSELL ORGANIZATION, INC. Westport, Conn.

Phone CA7-4111 or write for Free PRODUC-TROL Booklet NED
NAME ..... COMPANY .....
ADDRESS .....
CITY ..... STATE .....

▲ For more details circle NED-165 M7 on enclosed inquiry slip ▲

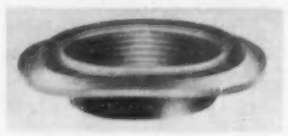
DRIVER BIT HOLDING DEVICE for ¼ and 5/16 in. hex insert bits



Device for frictionally holding ¼ and 5/16 in. hexagon insert screwdriver bits is now available on all Magna-Tip magnetic bit holders. It consists of a tiny neoprene ring which is tightened down over the bit by means of a compression collar. Adjustment is easily made with the fingers, eliminating the need for hand tools. Made by **Magna Driver Corp.**, Dept. 23, 779 Washington St., Buffalo 3, N. Y.

▲ For more details circle NED-166 M7 on enclosed inquiry slip ▲

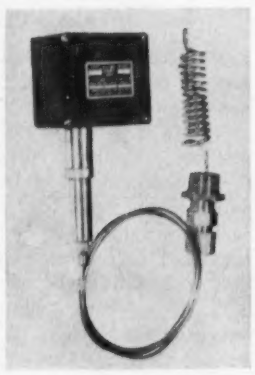
PRESSED STEEL WELDING FLANGES now in ¼ through 2-in. sizes



Added to standard line of pressed steel welding flanges is this 2-in. heavy duty flange which increases the line to eight sizes from ¼ through 2 in. Flanges weld easily and are available in brass, copper, and stainless. They can be made to fit product contour. Material thickness ranges from 10 gage to 3/16 in. Sizes from 2½ to 4 in. will soon be available. Made by **Tech Products, Inc.**, 444 Mosel Ave., Staten Island 4, N. Y.

▲ For more details circle NED-167 M7 on enclosed inquiry slip ▲

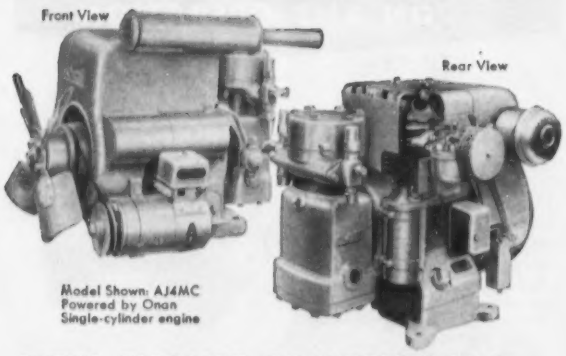
TEMPERATURE CONTROL adjustable from −150 to 650° F



Sensitive and compact Type F7 temperature control is usable on ovens, water baths, test cabinets, hot platen presses, and air conditioning units. It consists of two assemblies: The remote bulb thermal device and the control head with connecting capillary tube of required length. Control head assembly can be placed remote from the controlled source. A bellows operates a snap-acting switch at a preset temperature. Models have adjustable ranges between −150 to 650° F and on-off differentials of about 1 to 2° F. Normally-open, normally-closed, or double-throw (with no neutral position) single-pole switches are rated 15 amp on 115 or 230 v ac and will withstand 180° F. Made by **United Electric Controls Co.**, 79 School St., Watertown 72, Mass.

▲ For more details circle NED-168 M7 on enclosed inquiry slip ▲

AIR CONDITIONING
NEWS



Model Shown: AJ4MC
Powered by Onan
Single-cylinder engine

NEW ENGINE-COMPRESSORS for mobile air conditioning or refrigeration

Built as integrated in-line units with Onan engines direct-connected to Onan compressors. Compact, permanently-aligned and smooth-running. No troublesome belts, couplings or sheaves. Optional accessories: batteries, starters, generators, and fans. Onan 4-cycle engines, built for continuous duty and long life, operate on either gasoline or Propane. World-wide parts and service organization.

THREE MODELS: **AJ4MC:** 1 ton cap., 4.1 H.P., F-12 refrigerant.
LK5MC: 2½ tons cap., 6.25 H.P., F-22 refrigerant.
CCK11MC: 5 tons cap., 12.9 H.P., F-22 refrigerant.

Write for engineering data.

D. W. ONAN & SONS INC.
3639 University Ave. S. E., Minneapolis 14, Minnesota

ELECTRIC PLANTS • AIR-COOLED ENGINES • GENERATORS • KAB KOOLER

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- Pump Controls
- Duplex Pump Alternators
- High and Low Level Cutoffs
- High and Low Level Alarms
- Multi-Level Signals
- Liquid Metering
- Special Controls and Panels

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Listed by Underwriters Laboratories

CHARLES F. WARRICK CO.
1962 W. Eleven Mile Rd.
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Warrick
FLOATLESS
LIQUID LEVEL CONTROLS
ELECTRODE TYPE

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VOLUME PROFITS through BETTER ACTUATION!

7 LOW-COST STANDARD SIZES

36-page book is crammed with helpful facts on b/b Screw Basic Operation • Applications • Advantages • Features • Characteristics • Technical Data • Standard Assemblies • Couplings • Design Data • Engineering Assistance • Service. Make your volume products easier to produce, operate and sell with Saginaw b/b Rolled Thread Screws—they cost no more and are far more efficient than acme screws • WRITE TODAY!

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from world's largest producer of b/b screws and splines

ROLLED THREAD
Saginaw b/b Screws

SAGINAW STEERING GEAR DIV., GENERAL MOTORS CORP., SAGINAW, MICH.

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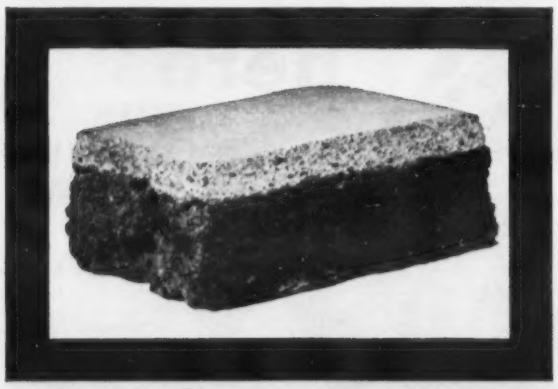

Now! BOND NEW CEMENT TO OLD!

Use new Tropical Cement Bond to *successfully* patch or re-surface broken concrete floors, steps, driveways, shipping docks. Repairs won't crumble, break or flake. Fracture tests show old-new bond undisturbed. Clean, brush on Cement Bond, lay new mix. Save high cost of breaking up old concrete! Withstands heavy traffic. *FREE.* Your letterhead request brings complete information—write today!

TROPICAL PAINT COMPANY
1124-1216 W. 70th, Cleveland 2, O.
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883
SUBSIDIARY OF PARKER RUST PROOF COMPANY

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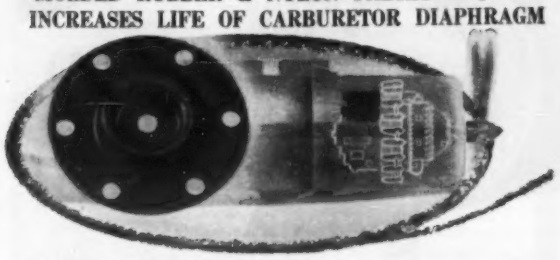
THE SHAPE OF THINGS IN MOLDED RUBBER

MOLDED RUBBER & NYLON FABRIC INCREASES LIFE OF CARBURETOR DIAPHRAGM



New fabric specifications were compiled from tests run by the Acushnet labs prior to molding this nylon carburetor diaphragm.

A special Acushnet compound molded to one side of the nylon proved successful in resisting the specified iso-octane and aromatic fuels. To accomplish this, new techniques were developed to prevent pleating of the nylon. To further insure its life span, the bolt flange was molded of double coated neoprene on cotton.

Let Acushnet be responsible for producing your next molded rubber diaphragm. The complete facilities for creating special compounds and working with new fabrics assure precision diaphragms of all types and sizes.

What's Your Shape?

Send for Acushnet "Rubber Data Handbook."

Acushnet **ACUSHNET PROCESS COMPANY**
NEW BEDFORD, MASSACHUSETTS

... *Precision Molded* RUBBER, SILICONES - "APCOTITE" BONDING

Address all communications to 782 Belleville Ave., New Bedford, Mass.

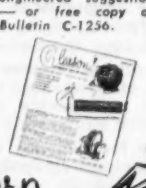
For more details circle NED-173 M7 on enclosed inquiry slip

REPLACEABLE Spring Motors in Gleason Reels

Spring motors in GLEASON SPRING REELS are *replaceable* as a single unit by removing a few bolts. There's no chance of spring "fly out," no need to handle loose or free springs. A stock of these spring motors is always on hand, for quick replacement without difficulty or danger.

Check into this—and many other features, that make GLEASON REELS the safest, most efficient, most economical for all cable-control applications to "equipment in motion."

Your "Reel" problems can be most effectively solved by GLEASON REELS. Write for a Gleason-engineered suggestion — or free copy of Bulletin C-1256.



Gleason Reel Corp
738 N. PLANKINTON AVENUE
MILWAUKEE 3, WISCONSIN
SPRING REEL HEADQUARTERS FOR ALL INDUSTRY

For more details circle NED-174 M7 on enclosed inquiry slip

HENRY AUTOMATIC...

3 IN 1 SELF-CLEANING LIQUID FILTERS

FLOTATION · PROGRESSIVE FILTERING · SETTLING

Henry Automatic liquid filters for industry combine all three basic principals of liquid clarification. They are exclusively designed to eliminate maintenance problems normally associated with filtering equipment. Heavy duty construction assures efficient, long lasting, uninterrupted operation.

Henry Automatic self-cleaning filters for clarifying liquids are available in models with capacities from 10 to 1,000 G.P.M. Write today for complete information—and an answer to your filtering problems.

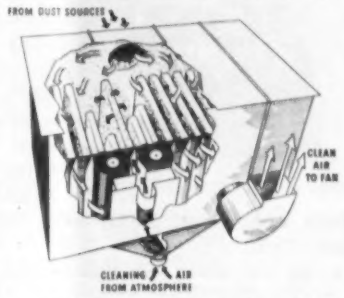
High potential territories open to responsible manufacturers agents.

HENRY MANUFACTURING COMPANY, INC.
P. O. Box 219 Bowling Green, Ohio

For more details circle NED-175 M7 on enclosed inquiry slip

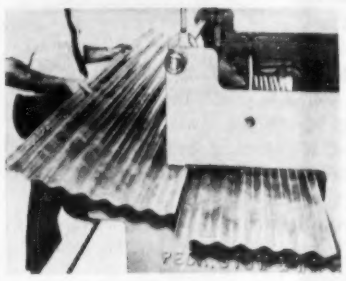
DUST FILTER
cleaned of dust as it operates

Roller cleaner of the Roll-Clean Dynaclone dust filter moves back and forth across the open filter bag ends, sealing each one as it is being cleaned by atmospheric air. Cleaning air is brought into the filter by the main operating fan while the dust filter continues to operate. This unit has more cloth area and easier filter bag changing than the original machine. Complete dust seal is provided by rubber rolls which block off adjacent bags. Cutaway view shows operation of the filter. Made by **W. W. Sly Mfg. Co.**, Dept. A, 4748 Train Ave., Cleveland 2, Ohio.



For more details circle NED-176 M7 on enclosed inquiry slip

SQUARING SHEAR
for sheet metal, fibers, rubber



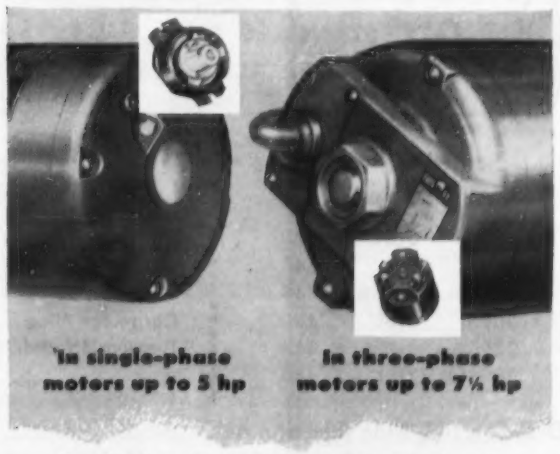
Gap-in-housing feature of the Pexto foot - operated gap squaring shear permits slitting a sheet of any length up to the full width of the gap, by successive cuts. Shear will cut sheet metal, plastic, fiber, Fiberglas, rubber, insulation, and textiles. Material is fed from left to right through the housings. Standard equipment includes back, front, graduated side, bevel, and adjustable side slitting gages, and lever-actuated holddown. Maximum capacity is 16 gage. The G-42 and G-52 shears are 50¾ and 60¾ in. wide and have an over-all width of 81¼ and 91¼ in. respectively, including tables. Made by **Peck, Stow & Wilcox Co.**, West St., Southington, Conn.

For more details circle NED-177 M7 on enclosed inquiry slip

STEP-DOWN PULLEY
for fractional horsepower use

Made from welded pressed steel parts, this step-down V-belt pulley is designed for fractional horsepower use on appliances and similar equipment. One section of larger pulley is formed to make the inner half of the step-down pulley, which also adds to unit's strength and rigidity. Construction eliminates the solid metal machined hub used in conventional step-down V-belt pulleys. Made by **Nagel-Chase Mfg. Co.**, Dept. N, 2809 N. Ashland Ave., Chicago 13, Ill.

For more details circle NED-178 M7 on enclosed inquiry slip



KLIXON MOTOR PROTECTORS
mean maximum safe output, minimum down time

With the new Klixon Inherent Motor Protector for 3-phase motors, you now have available the same full safe capacity from polyphase motors that you have been getting for the past 20 years in single-phase motors.

Motor manufacturers are now able to supply Klixon built-in protection in standard 3-phase motors as well as in single-phase motors.

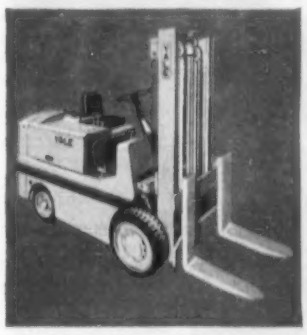
Motors protected with Klixon Inherent Protectors prevent overheating caused by:

- PROLONGED OVERLOADS
- STALLING
- FAILURE TO START
- LACK OF VENTILATION
- INCREASE IN AMBIENT TEMPERATURES
- PLUGGING OR REVERSING DUTY
- UNBALANCED VOLTAGE

METALS & CONTROLS CORPORATION
Spencer Thermostat Division 5001 Forest Street, Attleboro, Mass.

For more details circle NED-179 M7 on enclosed inquiry slip

YALE
"integrated design"



GAS TRUCKS

Yale Gas Trucks with capacities from 1,000 to 10,000 lbs. now include premium engineering advances as standard features:

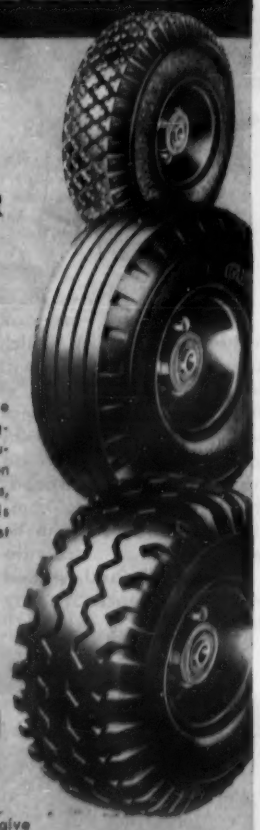
- Self-adjusting hydraulic wheel brakes of increased capacity for fast, smooth stops.
- Side-thrust rollers to reduce stress and compensate for off-center loading.
- Yale Torque Transmission for instant power and accurate inching control. Also available with Fluid Coupling or standard transmission.

Write for booklet 5101D. The Yale & Towne Mfg. Co., Philadelphia 15, Pa. Dept. A-3712.

YALE* INDUSTRIAL LIFT TRUCKS AND HOISTS
*REG. U. S. PAT. OFF.

For more details circle NED-180 M7 on enclosed inquiry slip

GENERAL



Wide-Base Pneumatics THE ANSWER TO LOWER OPERATING COSTS

For peak high-speed performance you can't beat dependable, long-wearing General Wide-Base Pneumatics. They give you high flotation for easier rolling over all surfaces, cushion equipment and loads against damage, save high-cost floors and floor surfaces.

Saves Time and Money at any Speed — Anytime!

General Wide-Base Pneumatics give you every cost-saving advantage at every speed . . . on every job. Available separately or in assemblies of tires, tubes and wheels. Size O.D. 8" to 35"—200 to 7890 lbs. capacity for low or high speeds.

THE GENERAL TIRE

Rigid CASTER FORKS

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

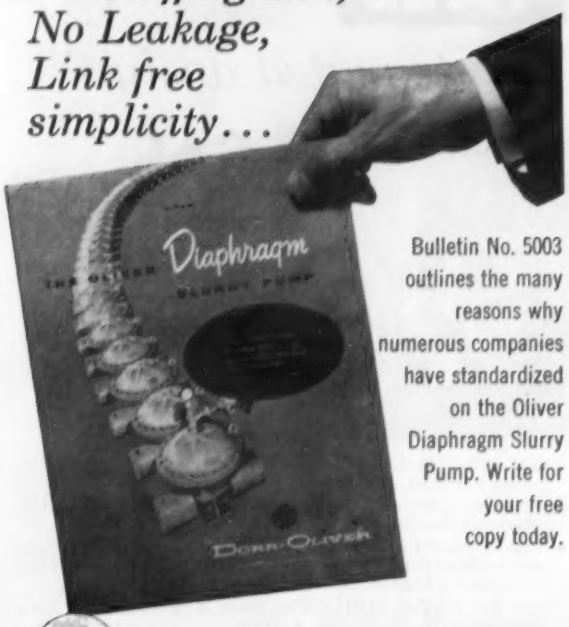
Swivel

SEND FOR CATALOG, DEPT. 4

THE GENERAL TIRE & RUBBER CO.
AKRON, OHIO

For more details circle NED-181 M7 on enclosed inquiry slip

No Stuffing Box, No Leakage, Link free simplicity...



Bulletin No. 5003 outlines the many reasons why numerous companies have standardized on the Oliver Diaphragm Slurry Pump. Write for your free copy today.

DORR-OLIVER INCORPORATED
WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT
STAMFORD • CONNECTICUT • U.S.A.

For more details circle NED-186 M7 on enclosed inquiry slip

DUPLICATE HOLES *Automatically!* WITH THE **WALES FABRICATOR-DUPLICATOR**

PUNCH ACCURATE HOLES FROM ANY MASTER TEMPLATE

Holes in the template, mounted on the Duplicator, are automatically precision punched in the work piece . . . which is mounted on the Fabricator. Any size or shape hole within the limits of 3½" dia. can be handled on a quick change basis. Punch and die changes are made in seconds so that patterns with various size holes can be duplicated at high speed. This equipment is a complete punching shop in itself . . . fast . . . accurate . . . rugged and priced within the reach of any shop.

WALES MOBILE FIELD UNITS
We'll bring the Fabricator-Duplicator right to your door for a demonstration. Ask for details.

SEND FOR BULLETIN NO 21L
Time studies, specifications illustrations etc., are all yours for the asking

WALES-Strippit COMPANY
A UNIT OF HOUDAILLE INDUSTRIES, INC.
AKRON, NEW YORK
WALES-STRIPPIT OF CALIF., SOUTH GATE, CALIF.
WALES-STRIPPIT OF CANADA LTD., HAMILTON, ONT.
"...the Wales-Way is the PLUS-PROFIT way"

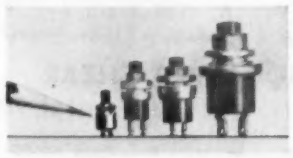
For more details circle NED-187 M7 on enclosed inquiry slip

CALCULATING MACHINE
for hours, minutes, and seconds

Addition, subtraction, calculation, and multiplication of hours, minutes, seconds, and their fractions are functions of the Time-Exa machine. It has a nine-digit keyboard, weighs 6 lb, and measures 7 x 7½ x 3½ in. Price is under $100. Available from **Silver Bells Ltd.**, Dept. NED, 1637 Del Monte Blvd., Seaside, Calif.

For more details circle NED-188 M7 on enclosed inquiry slip

TINY PUSHBUTTON SWITCH
rated 1/10 amp at 115 v ac

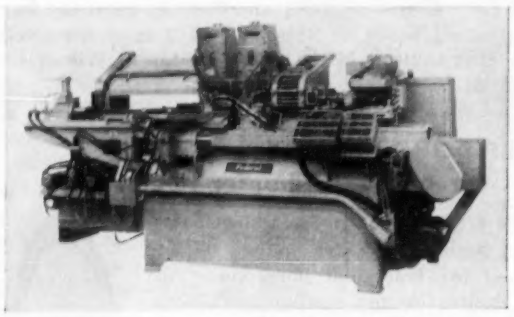


Ultra-miniature Series 39-1 pushbutton switch which measures 0.250 in. in diameter by 0.615 in. long is rated 1/10 amp at 115 v ac resistive. The single-pole single-throw, momentary contact, normally open switch has life expectancy of 200,000 operations at rated load. It extends 0.315 in. behind panel, including the soldering terminals. Switch is designed for 1/16-in. panels and requires a 3/16-in. hole for mounting. Made by **Grayhill, Inc.**, Dept. NED, 561 Hillgrove Ave., LaGrange, Ill.

For more details circle NED-189 M7 on enclosed inquiry slip

FLASH WELDER
automatically joins two parts

Designed to resistance flash weld worms to ends of steering gear shafts, this automated flash welder incorporates a 150-kva transformer. Both parts are



automatically fed from loading chutes, injected against a gage bar for correct weld position, and ejected after welding. A marking device for shaft and a radial positioner for the worm are incorporated in the automatic sequence. Continuous machine operation is stopped if parts chutes become empty. Made by **Federal Machine & Welder Co.**, 212 Dana St., Warren, Ohio.

For more details circle NED-190 M7 on enclosed inquiry slip

MARSH *Mastergauge*

The gauge that has everything!

- **LEAK-PROOF ONE-PIECE CONSTRUCTION** . . . bourdon tube fused to socket and tip by exclusive "Conoweld" process.
- **STURDY "MARSHALLOY" CASE** . . . formed of boiler-plate-thickness steel, copper clad inside and outside to give it the corrosion resistance of solid copper. It's one third lighter, but four times stronger than cast iron.
- **PRECISION "MASTERGAUGE" MOVEMENT** . . . with such exclusive features as the coined sector gear.
- **AVAILABLE WITH STAINLESS TUBE AND SOCKET** . . . choice of stainless steels and alloys for all corrosive conditions.
- **WITH "RECALIBRATOR"** . . . quickest and best way to keep a gauge accurate.

These features are combined only in "Mastergauge", standard bearer for the broad line of Marsh Gauges . . . each the best of its kind. Ask for data.

MARSH "THE STANDARD OF ACCURACY"

MARSH INSTRUMENT CO., *Sales Affiliate of Jas. P. Marsh Corp.*, Dept. 26, Skokie, Ill.
Marsh Instrument and Valve Co. (Canada) Ltd. 8407 103rd St., Edmonton, Alberta.
Houston Branch Plant: 1121 Rothwell St., Sect. 15, Houston, Texas.

For more details circle NED-192 M7 on enclosed inquiry slip

GRINDING MILL OUTPUT upped!

Performance proved! Sturtevant Air Separators, in closed circuits with grinding mills, have increased mill capacities from 25 to 300% while lowering power consumption as much as 50% in the cement industry.

Easily adaptable to your materials! Sizes of Sturtevant Air Separators, ranging from 3 to 18 feet dia., can be engineered to fit your specifications.

Cost-cutting features include rugged construction for a lifetime of low down-time service *plus* easy accessibility for quick maintenance (typified by the "OPEN-DOOR" design in other Sturtevant equipment).

Write for bulletins on Sturtevant Air Separators and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to lower operating costs over more years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

For more details circle NED-193 M7 on enclosed inquiry slip

37 STAINLESS AND SUPER ALLOY ANSWERS TO CORROSION PROBLEMS IN TUBING AND PIPE

Standard Stainless Types

302	310	321
304	316	347
304L	316Cb	348
309S	316L	430
309Cb	317	442
309SCb	317L	443

Super Corrosion-Resistant Types

Carpenter Stainless No. 20Cb
Carpenter 7Mo
Carpenter Alloy B
Carpenter Alloy C
Titanium 55 and 70

Special-Purpose Types

Zirconium	Types 201 and 202
Zircalloy	Armco 17-7PH
19-9 DL	Titanium Alloys
HiMu 80	Haynes No. 25 (L-605)
N-155	Hastelloys F and X
Invar	A-286

Draw on this wide selection of Carpenter stainless, super-resistant, and special-purpose Tubing and Pipe for *service-proved, cost-saving* solutions to all corrosion problems in your plant or products you make. Carpenter quality and uniformity save time and money. Round and special shapes for pressure, mechanical, structural, sanitary, and other needs. Tubing sizes to 4½" O.D., 35 to 9 BWG, in wide variety of surface finishes. Schedules 5 and 10 pipe to 4", Schedule 40 to 2". Prompt service and technical help from distributors in over 40 cities. Request *Selecting and Buying Guide* Bulletin T.D. 120.

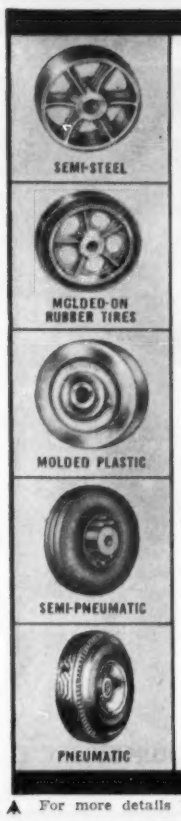
MEMBER

The Carpenter Steel Company
Alloy Tube Division, Union, N. J.
Export Dept.: The Carpenter Steel Co., Port Washington, N. Y.—"CARSTEELCO"

Carpenter

Stainless Tubing & Pipe

For more details circle NED-191 M7 on enclosed inquiry slip



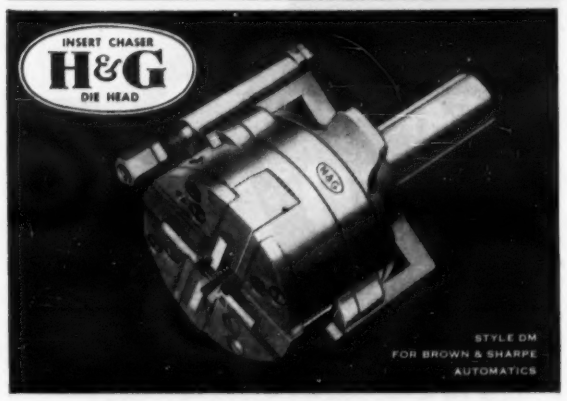
HAMILTON WHEELS FOR *Every Industrial Use!*

The Hamilton wheel line is extensive and complete! Hundreds of styles, sizes and capacities are offered — including wheels of steel, semi-steel, molded-on rubber-tired wheels, renewable rubber tires, full pneumatics, semi-pneumatics, molded plastic and composition rubber wheels, single and double flange wheels, cart wheels—and many more! If it's industrial wheels you need, *whatever* the application...*whatever* the quantity—get a quotation from Hamilton. Write today and tell us your requirements.

SEND FOR YOUR COPY OF THE HAMILTON WHEEL AND CASTER CATALOG!

Hamilton
CASTER & MFG. COMPANY
1659 Dixie Highway, Hamilton, Ohio

For more details circle NED-194 M7 on enclosed inquiry slip



STYLE AND SIZES FOR ALL MACHINES ON WHICH THREADS ARE CUT

On Brown and Sharpe, and other automatics

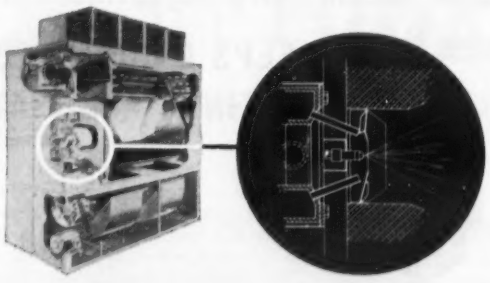
INSERT CHASERS SAVE UP TO 33%

Insert chasers are like safety razor blades: they cost so little that you can throw them away when dull. Or, for utmost economy, you can resharpen them over and over again. Only a flash grind is required. For less than $50 you get a dozen sets of ¾—16 insert chasers, each set ground ready to go. You will be amazed at the quantity of threads they will cut, even to Class 3 specifications, with a minimum of downtime.

FREE: "UNIFIED AND AMERICAN SCREW THREAD DIGEST"

THE EASTERN MACHINE SCREW CORP., 28-48 Barclay St., New Haven, Conn.

For more details circle NED-195 M7 on enclosed inquiry slip



efficient, low cost **HEATING**

the new Dravo Counterflo Heater with PYROJET

PYROJET is the first burner specifically designed for use in direct-fired space heaters. Check the performance and economy features of this revolutionary burner.

- Totally induced draft assures highest combustion
- Positive ignition of No. 5 oil provided by new dual pre-heater . . . another Dravo exclusive
- Automatic switchover on light oil/gas combination models . . . no manual adjustment
- Control options: on-off, hi-low-off, or full modulation

For complete information, write for Bulletin 564.

DRAVO CORPORATION
Pittsburgh 22, Pa.

Dravo representatives are located in principal cities.

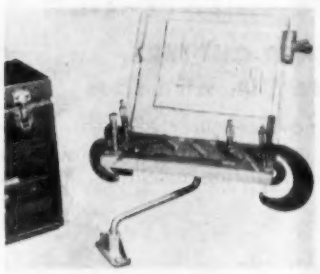
For more details circle NED-196 M7 on enclosed inquiry slip

VARIABLE SPEED DRIVE for 1/6 to 15 hp power outputs

Continuously variable power to operate direct current motors from alternating current lines from zero rpm to rated speed is provided by line of variable speed motor controls. These Powercontrols employ silicon power rectifiers, and are available with single and three-phase inputs and power outputs from 1/6 to 15 hp. Voltage drop is very slight, and overall efficiency is reportedly greater than 95 per cent. Controls are suitable for installation on new as well as existing machinery. Made by **Power Control Co.**, Dept. N, 71 Okner Parkway, Livingston, N. J.

For more details circle NED-197 M7 on enclosed inquiry slip

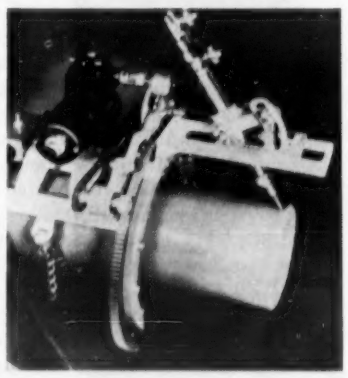
TOOL & PRINT HOLDER mounts on bench, swings out of way



Mounted on any horizontal or vertical surface of a work bench, the aluminum alloy Bench Mate tool and print holder can be swung and fixed in any position desired. Its 12 x 14-in. back shield has a spring to hold extra prints. The 5½ x 14-in. Masonite shelf has a groove for round instruments or pencils and holes for OD and depth micrometers. Made by **N. Droshine Mfg. Co.**, Dept. D. 2505 Kenneth St., Royal Oak, Mich.

For more details circle NED-198 M7 on enclosed inquiry slip

MOTORIZED PIPE BEVELER automatically cuts 1½ to 36-in. pipe



Attached to any of seven H&M pipe cutting and beveling machines, this motorized unit provides automatic operation. It is powered by a small universal motor. A flexible coupling connects it with the machine's crank pinion to drive the main gear and cutting torch around the pipe. Speed control allows use of proper speed for a smooth, clean cut. Made by **H & M Pipe Beveling Machine Co.**, 2010 S. Utica, Tulsa, Okla.

For more details circle NED-199 M7 on enclosed inquiry slip

NEW! TEFLON® STIRRING GLAND AND ROTARY SEAL

Available in four sizes, 24/40, 29/42, 34/45, and 45/50, standard taper, and is supplied for either 6mm. or 10 mm. shafts or tubing. The body of the gland is Teflon® and is suitable for use with any materials except metallic sodium. The ASCO gland offers many advantages over mercury sealed stirrers or precision bore stirrers both pricewise and performance wise. The ASCO gland is vacuum tight to 5×10^{-6} mm. Hg. When used as a thermometer port it allows standard thermometers to be used with standard taper joints, and in addition allows depth regulation of the thermometer bulb. Gas entry tubes may be simply and properly adjusted to any flask with standard taper joints. ASCO glands are almost indestructible, chemically inert, wear compensating, and universal in use.

FEATURES:

- Teflon® construction
- Operates at temperatures as high as 200° C.
- Non-contaminating
- Non-breakable
- Will not "Freeze"
- Inner and Outer "O" ring seals
- May be used as a stopper
- Will not wear loose
- Thousands in use
- Pays for itself
- Requires no special shafts or tubing

PRICE, GLAND ONLY

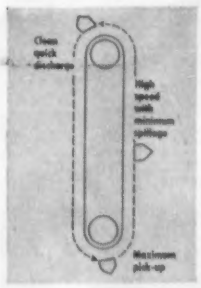
24/40	$11.75 ea.
29/42	13.50 ea.
34/45	14.75 ea.
45/50	17.50 ea.

Available at better laboratory supply houses, or Dept. NED-12

ARTHUR F. SMITH COMPANY
311 Alexander St., Rochester 4, N. Y.

For more details circle NED-200 M7 on enclosed inquiry slip

There's greater strength, greater capacity in



LINK-BELT "HS" elevator buckets

Link-Belt "High-Speed" buckets with reinforced corners and end plates wrapped around body assure strength at points of greatest stress. Low front lip provides maximum pickup—high end plates minimize spillage. Primarily used for handling fine, free-flowing, granular materials. For complete features and selection data, send for Folder 2548-A.

LINK-BELT

"HS" ELEVATOR BUCKETS

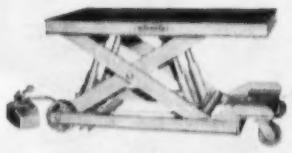
LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville (Sydney), N.S.W.; South Africa, Springs. Representatives Throughout the World. 14,407

For more details circle NED-201 M7 on enclosed inquiry slip

RAYMOND **HYDRAULIC EQUIPMENT**

PORTABLE ELEVATING TABLE

For die handling, feeding, positioning. Telescopic and Non-Telescopic Models. Cap. 2,000 lbs.



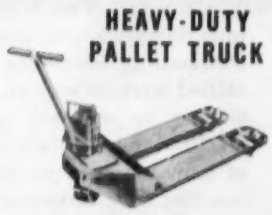
SHEET FEEDING TABLE

Keeps sheets, strips at right working level. Increases production, makes jobs safer, easier. Cap: 2,000 to 30,000 lbs.

RAYMOND

LIGHTWEIGHT PALLET TRUCK

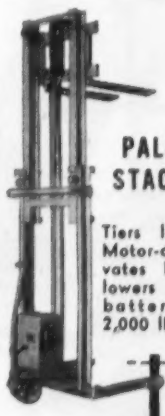
Rugged, maneuverable. 270° turning radius. Separate lift and lowering pedals. Cap: 2,000 lbs.



HEAVY-DUTY PALLET TRUCK

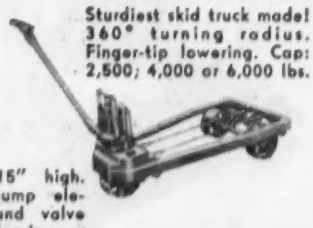
Handles your heavier loads. 360° turning radius. Finger-tip lowering. Cap: 4,000 or 6,000 lbs.

RAYMOND



PALLET STACKER

Tiers loads 115" high. Motor-driven pump elevates load, hand valve lowers it. Plug-in or battery-powered. Cap: 2,000 lbs.



SKID TRUCK

Sturdiest skid truck made! 360° turning radius. Finger-tip lowering. Cap: 2,500; 4,000 or 6,000 lbs.

SEND FOR FREE BULLETINS

The RAYMOND CORPORATION
4124 Madison St., Greene, N.Y.

Please send Bulletins on the following:

- ☐ Portable Elevating Table
- ☐ Lightweight Pallet Truck
- ☐ Pallet Stacker
- ☐ Sheet Feeding Table
- ☐ Heavy-Duty Pallet Truck
- ☐ Skid Truck

NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-202 M7 on enclosed inquiry slip

Crown Lubricators are easier to fill!

WRITE FOR BULLETIN 303

Hannifin's new CROWN Line Lubricators have many advantages. They are precisely adjustable, and the adjustment is concealed, tamperproof. Oil feed is under positive pressure, so you get oil whenever air flows. But users like them best because they are the easiest of all lubricators to fill—you don't even have to shut off the air flow. Bulletin 303 tells why. Complete Crown stocks in most principal industrial areas.

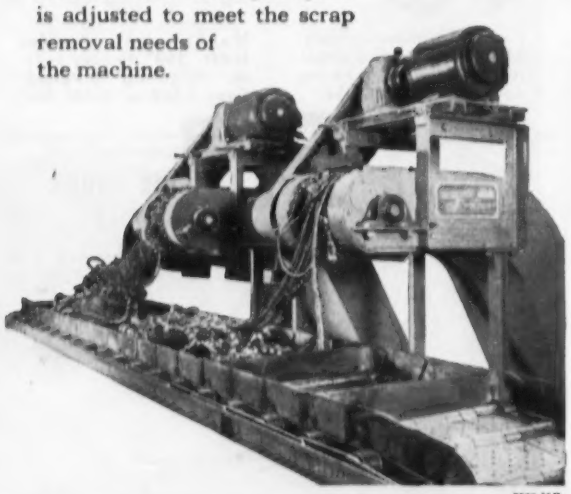
HANNIFIN

Hannifin Company, 527 S. Wolf Road, Des Plaines, Illinois
FILTERS • REGULATORS • LUBRICATORS

▲ For more details circle NED-203 M7 on enclosed inquiry slip ▲

LOOK... NO HANDS!

That's right! The May-Fran CHIP-TOTE permits the continuous operation of machine tools by eliminating down-time for scrap removal . . . skilled workers stay on the job . . . production increases by as much as 20%! Versatile CHIP-TOTE conveyors are available in a wide range of sizes to serve practically any type or size of machine tool. Conveyor speed is adjusted to meet the scrap removal needs of the machine.



REMOVE CHIPS, TURNINGS AND BORINGS CONTINUOUSLY AND AUTOMATICALLY WITH A

MAY-FRAN CHIP-TOTE

Write today for your copy of Bulletin MF-640.

MAY-FRAN ENGINEERING, INC.

1711 Clarkstone Rd. Cleveland 12, Ohio

▲ For more details circle NED-204 M7 on enclosed inquiry slip ▲

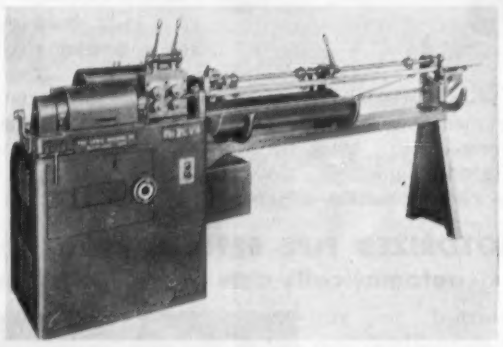
HAND SCREW MACHINE is economical for short-run work

Priced in range of $1534 to $1705, this Delta Hand Screw Machine is economical machine tool for production runs ranging from 50 to 1000 pieces. Through use of tooling such as form and cut-off tools, box turners, drills and taps, knurling heads, and threading and boring tools, screw machine parts can be turned out fifty times faster than with lathe and conventional machining operations. Features include six-station bed turret, double tool post cross slide which combines rapid movement with 8-in. travel, and universal tool positioning. Made by **Rockwell Mfg. Co.**, Delta Power Tool Div., 475 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-205 M7 on enclosed inquiry slip ▲

WIRE-STRAIGHTENER-CUTTERS handle 0.012 to 1-in. wire sizes

Variable speed drives and dual-center rotary straighteners are incorporated in the 2CV Convertible Series of wire straightening and cutting machines. Drives



permit feed speeds up to 200 fpm. Double-purpose machines are equipped with the straightener arbor for round wire, and can be converted to handle shapes, hexes, or flats by installing the interchangeable roll straightener. Machines handle diameters ranging from 0.012 to 1 in. Illustrated 2CV4 machine has a 1/16 to ¼-in. capacity. Made by **Lewis Machine Co.**, Dept. 8C, 3441 E. 76th St., Cleveland 27, Ohio.

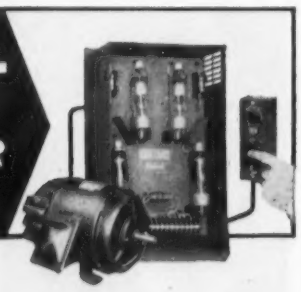
▲ For more details circle NED-206 M7 on enclosed inquiry slip ▲

Wiring Devices

Pass & Seymour, Inc. — Wiring devices from switches to lampholders are described in illustrated 80-page Catalog 60. Interchangeable Despard line and conventional line are covered. Specifications of each model and type are given.

▲ For more details circle NED-207 M7 on enclosed inquiry slip ▲

V★S JR. CHANGES DRIVE MOTOR SPEEDS



Available from ¾ hp. to 4 hp., the Reliance V★S Jr. operates from single phase a-c. power. Any motor speed from 290 rpm. to 2300 rpm. may be accurately selected by turning a dial.

Operator's control station, located for convenience and efficiency, has start, stop, run, jog buttons and speed selector.

Also available — dynamic braking, reversing.

D-1674

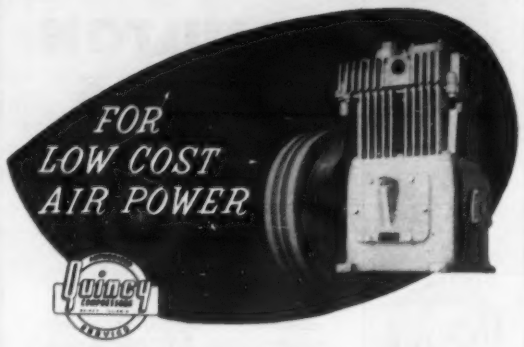
$762.00 List price—¾ hp. model, 220 or 440 v a-c. Includes control unit, operator's station and drive motor.

RELIANCE ELECTRIC AND ENGINEERING CO.

DEPT. 2412A, CLEVELAND 17, OHIO
Sales Offices and Distributors in principal cities

▲ For more details circle NED-208 M7 on enclosed inquiry slip ▲

QUINCY COMPRESSORS



SERVICE FROM COAST TO COAST

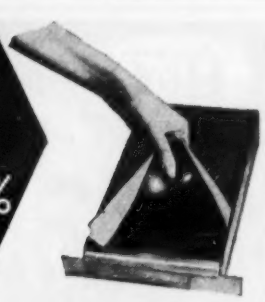
More than one hundred Quincy Authorized Service Depots throughout the country are ready to provide service and genuine factory parts for Quincy Compressors. Adequate stocks of parts are maintained for the wide range of models from 1 to 90 CFM . . . an important consideration in selecting air compressors to be used as a part of your product or for compressed air service in your plant. Write Dept. NED-57 today for descriptive brochure.

Quincy COMPRESSORS

QUINCY COMPRESSOR CO., QUINCY, ILL.

▲ For more details circle NED-209 M7 on enclosed inquiry slip ▲

REDUCE CLEAN-UP TIME 50%



a thin film of

RELEASE-COTE

on any surface sheds residue glues, adhesives, plastic coatings, inks, paints . . . like magic!

● Machines last longer because RELEASE-COTE repels coating materials, eliminating build-ups that tax motors and moving parts.

● Operators love RELEASE-COTE's gentleness to their hands. A little rubbed on the hands prevents coating material from sticking to the skin and nails.

Available in qt., gal., 5 gal. and tube.

Write for literature.

ESTABLISHED IN 1893 POTDEVIN

Distributed by
POTDEVIN MACHINE CO.
273 North Street, Teterboro, N. J.
Designers and manufacturers of equipment for gluing and labeling, coating, laminating, bag making and printing.

▲ For more details circle NED-210 M7 on enclosed inquiry slip ▲

ESNA needle valve adjustment nut

Part No. 99-2227-86

KEEPS CARBURETOR SETTINGS ACCURATE

Fuel leakage and carburetor settings that won't stay set reduce engine efficiency and make your equipment less reliable. You can lick both problems at once with ESNA's new needle valve adjustment nut.

This completely new, simplified design offers a one piece nut in place of the original hard-to-assemble three-piece unit. There's only *one* internal thread, and that's sealed by a tough, neoprene locking insert into which the "needle" threads itself with a perfect fit. The constant locking grip thus established maintains a precise adjustment regardless of severe vibration or impact. Test runs show no fuel leakage after more than ten thousand complete on-off cycles, with sufficient torque remaining to assure the required adjustment.

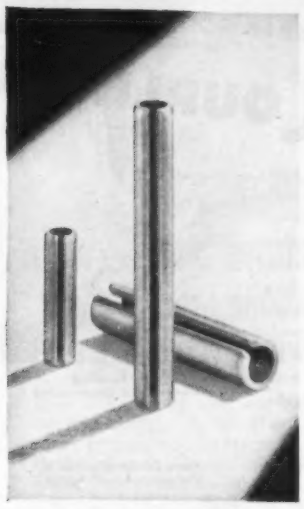
This new design is now in actual service as a standard production part in farm tractor carburetors. It is manufactured in a size 8/36 internal thread with a 3/8-24 external thread. Costing no more than the part it replaces, it is a simpler, faster installation, requiring fewer parts in inventory and it assures trouble-free field performance.

For details, write Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, New Jersey, Dept. S9-1237.

ELASTIC STOP NUT CORPORATION OF AMERICA

▲ For more details circle NED-211 M7 on enclosed inquiry slip ▲

SEL-LOK spring pins eliminate tapping, peening, milling

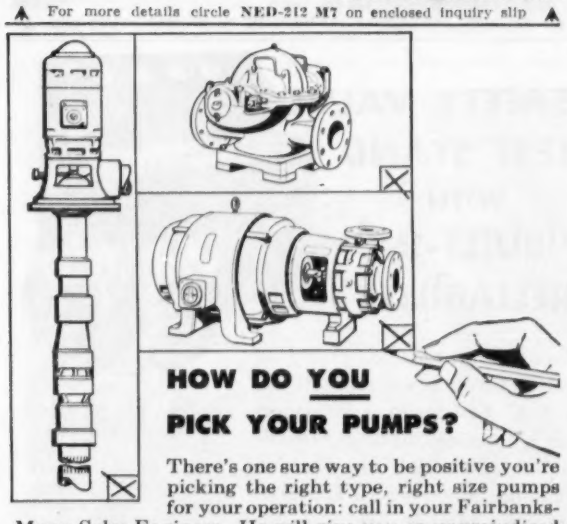


SEL-LOK spring pins are installed in plain drilled holes in one simple driving operation. They lock by spring action. Use them as axles, keys, hinge pins, cotter pins, pivot or stop pins. A SEL-LOK stays put, once you've installed it. It resists vibration and shock. It can be removed easily with a drift pin or punch, and reused again and again. These versatile pins are stocked by your authorized industrial distributor in sizes ranging from $\frac{1}{16}$ by $\frac{3}{16}$ to $\frac{1}{2}$ by 5 in., in heat treated alloy or corrosion resistant steel. Write us for Bulletin 2014 and samples. Sel-Lok Spring Pin Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.

SEL-LOK® SPRING PIN DIVISION SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-212 M7 on enclosed inquiry slip



HOW DO YOU PICK YOUR PUMPS?

There's one sure way to be positive you're picking the right type, right size pumps for your operation: call in your Fairbanks-Morse Sales Engineer. He will give you an unprejudiced recommendation because he has every type, every size pump—built by the world's largest pump manufacturer.

When you pick the right pump you save on power, repairs, maintenance and attendance. Be sure you're right. Call your Fairbanks-Morse Sales Engineer today, or write Fairbanks, Morse & Co., Dept. NED-12, 600 So. Michigan Ave., Chicago 5, Illinois.

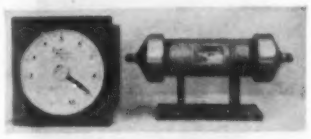
FAIRBANKS-MORSE

a name worth remembering when you want the BEST

PUMPS • SCALES • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • RAIL CARS • HOME WATER SERVICE EQUIPMENT • MAGNETOS

For more details circle NED-213 M7 on enclosed inquiry slip

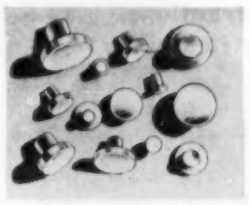
MASS FLOWMETER measures gas flow at 10,000 psi



True mass flow rate of gases over a pressure range of 200 to 1 can be measured without adjustment or compensation by this mass flowmeter. As gas passes through flowmeter it is given a constant angular velocity by an axial flow impeller. A measuring turbine downstream then removes the angular velocity. Since this velocity is known and constant, torque needed to decelerate fluid to zero is directly proportional to mass flow rate in pounds per unit of time. Flow rate is presented on self-balancing potentiometer readout. Accuracy is within 1 per cent over 5:1 flow range. Units are offered for up to 10,000 psi pressure at temperatures from −75 to 250° F. Made by **Inertial Instruments, Inc.**, Dept. S-1, 1738 Colorado Ave., Santa Monica, Calif.

For more details circle NED-215 M7 on enclosed inquiry slip

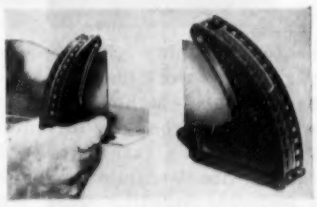
ELECTRICAL CONTACTS over 50 different sizes stocked



Wide range of electrical contacts of precious, rare metals and their alloys are made in over 50 different types and standard sizes, all available from stock. Among materials are fine and coin silver and Conmet 4 and 17. Standard solid headed and clad metal contacts made from composite metals, plus special contacts, are also offered. Solid rivet and composite type contacts are supplied in all standard alloys and special metals. Made by **Contacts, Inc.**, 1101 Silas Deane Highway, Wethersfield, Conn.

For more details circle NED-216 M7 on enclosed inquiry slip

FLANGE PROTRACTOR angles read directly from scale



Rapid and accurate checking of flange angles with the Sheridan Angle-Chek protractor is by holding the instrument against the part and reading the angle directly from its scale. Use can be on press brake, stretch formed, and punch press parts; form blocks; and patterns. Model 114-1 is for parts where heel of flange is on a flat surface. Model 114-3 is used without aid of a surface plate by applying directly to part. Both have a chrome-plated protractor blade and are calibrated 0 to 35 degrees both sides of 90 degrees, or 55 to 125 degrees continuously. Made by **Sheridan-Gray Inc.**, 24701 Crenshaw Blvd., Torrance, Calif.

For more details circle NED-217 M7 on enclosed inquiry slip

AMERclone

The dry collector for abrasive dust!

AAF's AMERclone Dry Centrifugal dust collector is *the* unit for handling large exhaust volumes containing abrasive dust in high concentrations. Here's why:

- AMERclone requires small space—a single AMERclone tube, 4" in diameter, has an approach velocity of 1000 fpm and a cleaning capacity of 350 cfm.
- There's no re-circulation of dust load to increase abrasive effect. And AMERclone's thick-wall gray iron castings give added protection.
- Collection efficiency remains practically constant over a wide range of exhaust volumes.

For complete AMERclone data, write for Bulletin 291.

American Air Filter COMPANY, INC.

391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

For more details circle NED-218 M7 on enclosed inquiry slip

Make Child's Play of

the toughest bonding jobs!

Stick with the One adhesive with

—The Easy Use

that makes difficult bonding work easy for even the newest apprentice—saves everyone time and effort.

—The Bond-Ability

to solve virtually any industrial problem—no matter what materials you have to join.

—The Strength of Ten Men

that gives you permanently satisfactory jobs—resists a pull of up to 1,500 pounds per square inch.

AVAILABLE from industrial jobbers or mill supply houses everywhere or write: Goodyear, Chemical Division, Coatings Dept., Akron 16, Ohio, for full information.

Pliobond BY **GOODYEAR**

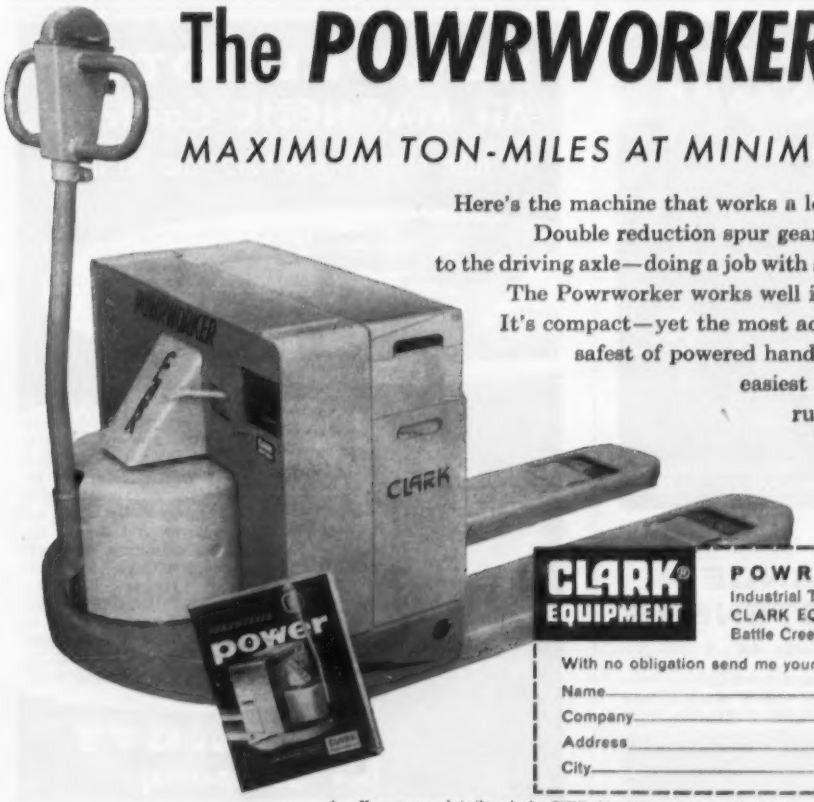
"BONDS ANYTHING TO ANYTHING"

Pliobond-T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-219 M7 on enclosed inquiry slip

The POWRWORKER® Pallet...

MAXIMUM TON-MILES AT MINIMUM POWER COST!



Here's the machine that works a longer cycle—puts out more work. Double reduction spur gears transmit power from the motor to the driving axle—doing a job with a minimum of power consumption. The Powrworker works well in narrow aisles and tight corners. It's compact—yet the most accessible truck of its kind. It's the safest of powered hand trucks, the easiest to handle, the easiest to service. It is built for the most rugged of operations. For a detailed construction booklet, mail the coupon below, or use the reader service card.

CLARK® EQUIPMENT

POWRWORKER SECTION
Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 21, Michigan

With no obligation send me your free full-color Powrworker booklet

Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State____

For more details circle NED-214 M7 on enclosed inquiry slip

HOT MELT PLASTIC COATINGS
for GEARS • TOOLS • PRECISION PARTS

BEFORE SECONDS AFTER

Dip

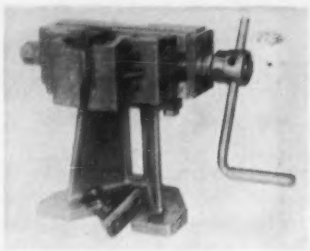
Coated•Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
479 Frelinghuysen Avenue, Newark 5, N. J.

For more details circle NED-220 M7 on enclosed inquiry slip

WORK HOLDING DEVICE
plastic-metal in jaws holds part



An inexpensive, throw-away work holding device for drilling, tapping, and machining operations on short-run castings or odd-shaped parts is available for use in all three sizes of John's drill jigs. Jaws of unfinished cast iron have cavities for accepting a part and a quantity of Devcon hardenable plastic steel. They are made to fit by sawing, drilling, or chipping; mounted on the drill jig; and filled with the plastic metal. Part is coated with release agent, held in proper position, and the jaws are then closed, molding the Devcon around the part. Hardening time is 2 to 3 hours. Jaws fit 6, 8, and 14-in. John's drill jigs. Made by **Heuser Mfg. Co.**, 1638D N. Paulina St., Chicago 22, Ill.

For more details circle NED-222 M7 on enclosed inquiry slip

FLAME HEATING MACHINE
building block construction provides operating flexibility

High degree of flexibility for a wide variety of flame heating applications is provided by the building block construction embodied in the Flamatic selective flame

heating machine. Flat-bed base unit supports wide variety of work-holding and handling fixtures and flame heads. It houses a large volume quench tank with heat exchanger, an automatic quench agitation system, and a large work removal conveyor which can be timed with work cycle.

Separate rotating work unit is offered for processing gears, pinions, shafts, and cams that must be rotated during heating. Spindle speeds range from 15 to 375 rpm. Rhomboid flame heads with removable tips are used with rotating spindle work unit. Other work-handling units and flame heads can be used for spot hardening, combination hardening, and brazing. Made by **Cincinnati Milling Machine Co.**, Process Machinery Div., Marburg & South Sts., Cincinnati 9, Ohio.

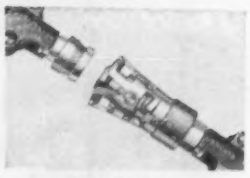
For more details circle NED-223 M7 on enclosed inquiry slip

EXTRA HEAVY locking, safety type quickly detachable VALVE COUPLINGS

Valve Coupling Locked in "On" Position

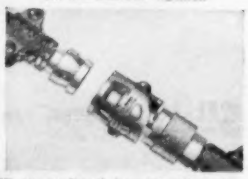
give the operator complete control of the air line at any point

Operator can shut off air and change tools quickly. Newly improved design permits the coupling to be locked in either "On" or "Off and Exhaust" position. Air in tool is exhausted to atmosphere automatically, preventing accidents. Pressure tight leak-proof construction — but free swiveling to avoid kinking the hose. For any application involving line air to 250 psi.



Valve Coupling Unlocked and Disconnected

Valve Coupling Locked in "Off and Exhaust" Position



Write for Bulletin No. 551

Quick-As-Wink®
Air and Hydraulic Control Valves and Pressure Specialties
C. B. HUNT & SON, INC.
2105 E. PERSHING ST. • SALEM, OHIO

For more details circle NED-225 M7 on enclosed inquiry slip

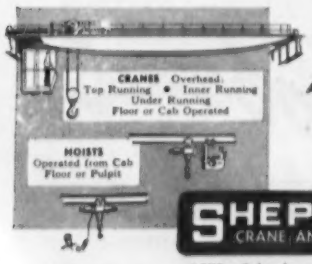
SHEPARD NILES HOISTS
SAVE YOU MONEY

Heavy-Duty
SHEPARD NILES
Hoist

YOU GET A HOIST that will lift your loads year after year when you buy one bearing the Shepard Niles name. Long after you've written it off, your Shepard Niles Hoist will be cutting costs, speeding work in your plant.

Shepard Niles offers you electric hoists of proven quality for cycle duty, heavy intermittent duty, medium duty and light-occasional service. Choice of medium and heavy capacities with slow, medium and fast speeds.

Available with short to long lifts, standard or close headroom, manual or magnetic controls. Easily reconnectable throughout for changing voltages of alternating current. Low voltage at push button station included. Also suitable for weather-proofing and vapor proofing.



Send for Bulletin illustrating complete line of Shepard Niles Hoists. Request a representative to call

America's Most Complete Line of Cranes and Hoists Since 1903

SHEPARD NILES
CRANE AND HOIST CORPORATION
1879 Schuyler Ave., Montour Falls, N. Y.

For more details circle NED-221 M7 on enclosed inquiry slip

SAFETY VALVE TEST STAND WITH "BUILT-IN" RELIABILITY

Reliability of the Safety Valve Test Stand is guaranteed by the well known repeatability and accuracy of I.E.C. Gage Gards. They prevent the pressure being measured by each pressure gauge from exceeding its maximum.

Completely reliable testing of safety valves is assured with the I. E. C. Test Stand. Four gauges give accurate readings, in the model illustrated, for pressures ranging between zero and 1000 pounds. Models are available for any ranges selected by the customer up to 10,000 pounds pressure. Adapter plates can be furnished to fit all sizes and types of safety valves. For complete information, please write for Bulletin 545.

INDUSTRIAL ENGINEERING CORP. IEC
INDUSTRIAL ENGINEERING CORPORATION
525 E. Woodbine, Louisville 8, Ky.

For more details circle NED-226 M7 on enclosed inquiry slip

WANT TO SPEED PRODUCTION?

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ASK US ABOUT EATON-RELIANCE INDUSTRIAL FASTENERS
Send for Engineering Bulletin 4K/3

EATON RELIANCE DIVISION
MANUFACTURING COMPANY
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SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

For more details circle NED-224 M7 on enclosed inquiry slip

Now—ELLIOTT Air MAGNETIC Controls
for tube expanding in hazardous locations

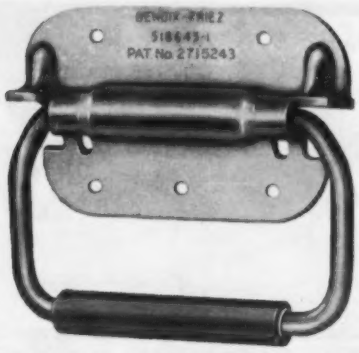
fast efficient easy to handle

Brings new concept of torque control to tube expanding. Based on operation of two magnets which results in instantaneous engagement and disengagement between air motor driver and driven expander. Calibrating dial permits exact settings for torque control. Trigger-controlled motor runs forward or reverse. Control and expanders fit in metal case. Write Elliott Company, Lagonda Division, Springfield, O., for Leaflet Y-47.

Y7-3

ELLIOTT Company

For more details circle NED-227 M7 on enclosed inquiry slip



HEAVY-DUTY INDUSTRIAL HANDLE

RUST PROOF! SHOCK PROOF! MEETS MILITARY SPECIFICATIONS C-4150A, T-945A

Lifts 200 pounds with adequate safety factor. Special sleeve on grip will not crack, chip, become sticky or tacky in temperatures from −65° to +160°F. Patented design eliminates pinching, holds grip against surface when not in use. Attaches easily. Write for free literature and quantity discounts. Bendix-Friez, 1444 Taylor Avenue, Baltimore 4, Maryland.

Friez Instrument Division

Bendix AVIATION CORPORATION

For more details circle NED-228 M7 on enclosed inquiry slip

Portable mixer

mixes fluids in seconds

at flip of a switch

You may save *hundreds of man-hours yearly* with a LIGHTNIN Portable Mixer in your plant.

Use a LIGHTNIN to handle fluid mixing jobs you're doing now by hand, or with outmoded equipment. Mix, blend, circulate fluids *in any tank or container*. Dissolve chemicals, make up heavy slurries quickly—by flipping a switch.

Use LIGHTNINs for mixing paint, glue, starch; stirring food products for uniformity; improving heat transfer in quench baths; hundreds of other jobs.

You get the right mixer for the job whenever you specify LIGHTNIN. Thirty standard portable models—electric or air-driven; direct or gear drive; sizes ⅛ to 3 HP.

Guaranteed unconditionally. Thousands of LIGHTNINs in service—many for 20 years and more.

For full details, request illustrated Catalog B-108.

1. **BALL BEARING MOTORS** . . . Choice of semi-enclosed, totally enclosed, explosionproof. All standard voltages, phases, frequencies.
2. **TRUE-RUNNING SHAFT**... Extra ball bearing takes the load of mixer shaft off the motor bearings; prevents vibration and extends service life.
3. **CORRECT MIXING ANGLE**... Ball-and-socket clamp instantly locks mixer at any position for desired mixing action. Supporting clamp holds mixer firmly on tank or on separate support.
4. **EASY SHAFT ADJUSTMENT** . . . Shaft can be removed or changed quickly by means of threaded and tapered tube and chuck which hold shaft tight while mixing.

Full selection of mixers for permanent mounting, too—on tanks of any size and shape, open or closed. Propeller, paddle, and turbine units; top-, bottom-, or side-entering. Sizes ¼ to 500 HP. For details, request descriptive Catalog B-109.

Lightnin® Mixers MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-a Mt. Read Blvd., Rochester 11, N.Y.

In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

For more details circle NED-229 M7 on enclosed inquiry slip

LIFT TRUCK

lifts from below ground level

Channels that lower below ground level are a feature of this 6000-lb capacity lift truck. It is suited for handling in pits, lowering palletized materials into dipping or cleaning tanks, or transferring material in a plant with varied floor levels. Loads can be handled from 72 in. below the floor to 41 in. above ground level. Overall truck height is 83 in. Made by **Yale & Towne Mfg. Co.**, Dept. M-1, Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

For more details circle NED-230 M7 on enclosed inquiry slip

ABRASIVE WHEEL

produces resilient brushing action

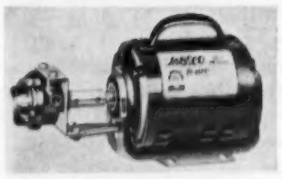
Thousands of narrow finger-like abrasive strips which comprise this abrasive wheel produce a highly resilient brushing action for working complex contours and

curvatures without flatting or digging. Wheel is primarily used for polishing, deburring, and removal of surface flaws on all metals. Available diameters range from 14 to 16 in. with widths from 3 to 60 in. Abrasive grits range from fine to coarse. Made by **Merit Products Inc.**, Dept. D, 3691 Lenawee Ave., Los Angeles 16, Calif.

For more details circle NED-231 M7 on enclosed inquiry slip

SELF-PRIMING PUMP

has plastic body, neoprene impeller



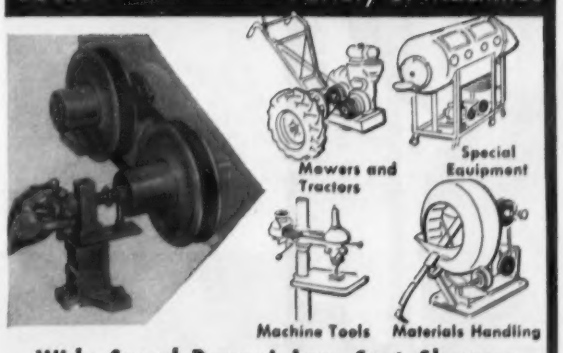
Particularly suited for handling such problem fluids as ferric chloride, this Model 3600-15 self-priming motorized pump delivers 5 gpm at 10-ft head with a dry suction lift of 12 ft. Pump has a chemical-resistant phenolic plastic body, neoprene impeller, titanium shaft, and a neoprene lip seal. It is driven by a ⅓-hp 115-v ac motor. Made by **Jabsco Pump Co.**, 2026 N. Lincoln St., Burbank, Calif.

For more details circle NED-232 M7 on enclosed inquiry slip

SPEED SELECTOR

VARIABLE PITCH SHEAVES

Control Speeds on Variety of Machines



Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

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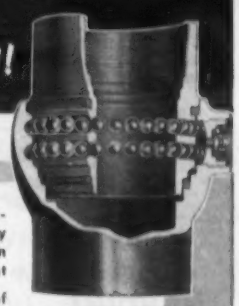
For more details circle NED-233 M7 on enclosed inquiry slip

SWING YOUR LIQUIDS INTO LINE

OPW swing joints

SWING EASY! FLOW EASY!

BRONZE • STEEL • ALUMINUM • MONEL



Full Unrestricted Flow • Effortless Movement • Greater Load Carrying Capacity • "O" Ring Sealed Contamination Free Operation • Perfect Alignment

Millions of gallons of all types of liquids are moved daily in flow lines where perfectly sealed, rotating OPW Swing Joints provide an almost limitless range of flexible operations. Join other users of OPW Swing Joints. You can also realize economies in your liquid products handling.

FREE CATALOG F-8 provides engineering data, sizes, styles, recommendations and prices.

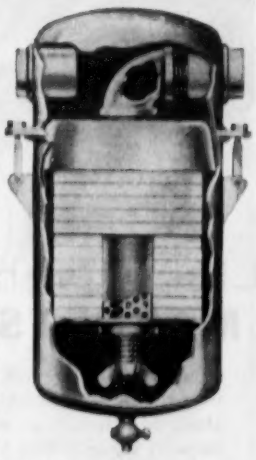
JORDAN CORPORATION
INDUSTRIAL SALES DIVISION OF OPW CORP.

6013 Wiehe Road
Cincinnati 13, Ohio
ELmhurst 1-1352

For more details circle NED-234 M7 on enclosed inquiry slip

keeps moisture out of Air Operated Equipment

MODEL AAPHS ABSORPTION FILTER



If you want to protect air-operated equipment from damage caused by moisture and other foreign matter, a Dollinger Absorption Filter is just the thing.

Illustrated is the Model AAPHS, which is used by thousands of manufacturers from coast to coast to eliminate process shutdowns and save thousands of dollars annually.

Why take chances with water that can rust and clog your equipment, ruin your work, or shut down processes. The unique design of Dollinger Absorption Filters eliminates every trace of moisture in air lines.

Write, wire, or call today for complete facts. Ask for Bulletin 200. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

DOLLINGER STAYNEW FILTERS

For more details circle NED-235 M7 on enclosed inquiry slip

READ any surface temperature with Alnor® PYROCON

Equipment...material...metallic or non-metallic...flat, curved... revolving or stationary—you can read every surface temperature accurately in less than 3 seconds!

Compact, complete in precision design, this rugged instrument assures highest standards of speed, accuracy and dependability.

Alnor Portable Pyrocons come in scale ranges to 2000° F., with thermocouples for every application. You'll find full details on the Pyrocon exactly suited to your operations in Bulletin 4257. Send for your copy now. Write: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-236 M7 on enclosed inquiry slip

INSIST ON
SINTZ COLD ROLLED THREADED STEEL ROD

ORDER FROM YOUR MILL SUPPLY HOUSE—INDUSTRIAL JOBBER OR DIRECT FROM

SINTZ threaded steel and non ferrous rod
CLAUDE SINTZ INC.
1928 STANLEY AVENUE
DETROIT 8, MICH.
QUALITY • SERVICE • PRICE
Established 1912
STUDS • FORMED RODS
PIPE PLUGS

For more details circle NED-238 M7 on enclosed inquiry slip

CUT SCRAP HANDLING COSTS with EC&M Lightweight MAGNETS

• For fast-moving boom or crawler cranes, these EC&M Magnets (wound with aluminum strap conductor) give high lifts on light (wind-blown) scrap. They keep balers at top output ...place bales into cars...and handle heavier grades of scrap effectively.

Write for BULLETIN 900-L

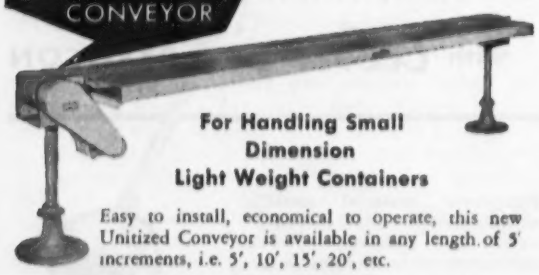
THE ELECTRIC CONTROLLER & MFG. CO.
A DIVISION OF THE SQUARE D COMPANY
CLEVELAND 28 • OHIO

7932

For more details circle NED-239 M7 on enclosed inquiry slip

NEW! NARROW BELT UNITIZED CONVEYOR

BELT WIDTHS OF 1" TO 6"



For Handling Small Dimension Light Weight Containers

Easy to install, economical to operate, this new Unitized Conveyor is available in any length of 5' increments, i.e. 5', 10', 15', 20', etc.

CONSTRUCTED of STANDARD PARTS

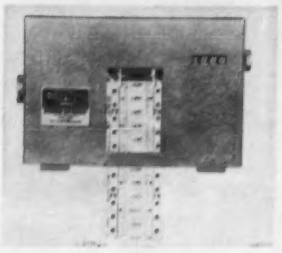
making it easy to lengthen the conveyor if increased production makes this necessary. Obsoleteness of equipment is eliminated. Ideally suited for the pharmaceutical, cosmetic, aerosol packaging, drug and chemical, plastics, food products and baking industries.

FREE! MAIL THIS COUPON FOR FULL DETAILS

ISLAND EQUIPMENT CORP. NED 12
27-01 Bridge Plaza North
Long Island City 1, N. Y.
Please send particulars on the Unitized Narrow Belt Conveyors.
COMPANY.....
BY.....
ADDRESS.....
CITY.....STATE.....

For more details circle NED-240 M7 on enclosed inquiry slip

PRINT-OUT COUNTER monitors production and machines for purpose of analyzing operations



Electrically connected to the machine or process to be monitored, the Tally-Print print-out counter accurately supplies the total elapsed time or the total number of units produced on a printed tape. A sprocket-driven chronologically marked chart roll holds the record which is totalized daily on a visual totalizer. Device is adaptable for monitoring any production machinery, conveyor belt flow, office machines, printing equipment, or other machines or processes.

Data supplied furnish a basis for locating production bottlenecks; analyzing tools, personel, and methods; accurate cost accounting; and preventive maintenance. Tally-Print is available with four and five-digit printers and standard print-out intervals of 5, 15, 30, or 60 minutes. Up to 300 impulses per minute can be registered. Four models have varying functions. Made by **Standard Instrument Corp.**, 687 Broadway, New York 12, N. Y.

For more details circle NED-241 M7 on enclosed inquiry slip

AUTOMATIC MULTISPINDLE DRILL handles up to six 3/16-in. drills or six 10-32 taps in mild steel

Adaptable for single or multiple tapping as well as for drilling operations at a flick of a switch, this Auto-Feed Tap-or-Drill combines a Helmet-Head drill press with supersensitive air feed, reversing motor, air-synchronized reversing control, and a Commander two to six spindle Multi-Drill head. Latter is adjustable for hole spacing in any pattern, with a minimum of 7/8 in. between any two spindles.

Machine is capable of drilling or tapping 5/8 in. single holes, or up to six 3/16-in. drilled holes or tapping six 10-32-in. threads. Seventeen spindle speeds from 200 to 3570 rpm are obtained from a 3/4-hp, 1750-rpm, 220-440-v, 60-cycle motor. Compact air power feed unit operates on air pressure up to 125 psi. Sealed, lifetime lubricated bearings are standard. Machines are available with illustrated adjusting table, large rigid worktable with floor legs, and as the automatic head only for incorporation in production or automation setups. Made by **Boice-Crane Co.**, 951 W. Central Ave., Toledo 6, Ohio.

For more details circle NED-242 M7 on enclosed inquiry slip

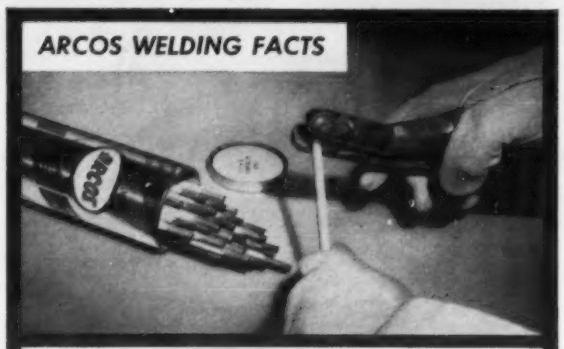
MAKE 1/2" to 5" CONDUIT OPENINGS FASTER
with GREENLEE Knockout Punches

Make fast, smooth, knockout enlargements over the full range of required sizes . . . also handy for many panel openings. Get clean, accurate cuts with minimum effort . . . slugs drop loose in die — you just tip them out. New ball-bearing drive screws and nuts speed hand operation with ordinary wrench. Full line of radio chassis punches also available. For new bulletins write Greenlee Tool Co., 1952 Herbert Avenue, Rockford, Ill.

GREENLEE

For more details circle NED-243 M7 on enclosed inquiry slip

ARCOS WELDING FACTS



How to Meet Every Demand When Welding Low Alloy Steels

Yours for the asking! A complete resume on Arcos Low Alloy Electrodes—grades, analyses, applications—that are produced to the same *rigid quality standards* as Arcos stainless electrodes. In addition, because of Arcos' *long experience* in the field of low alloy welding you are assured of consistent high quality welds.

FREE DATA CHART

Write for your copy of the Arcos low alloy electrode Application Chart.

Arcos Corporation, 1500 S. 50th St., Philadelphia 43, Pa.

ARCOS Filler Metal Specialists

For more details circle NED-244 M7 on enclosed inquiry slip

Low Cost Way to Dump and Store

New Model F1A Pallet Type
Phil-Dump

With the use of a lift-truck, a large variety of bulk materials are easily loaded and dumped or stacked and stored with this new labor-saving Phil-Dump. Redesigned to avoid spillage, this money-saving device boasts the sturdy construction for great durability for which all Phillips equipment is famous. Features are a non-slip pallet slot and a patented safety lock which permits automatic but not accidental dumping. Capacity is 1 cu yd. Send order to Salem-Brosius.

SALEM-BROSIUS, INC.
16 Arch Street • Carnegie, Pa.
PHILLIPS MATERIALS-HANDLING EQUIPMENT
Manufacturers Since 1863

For more details circle NED-245 M7 on enclosed inquiry slip

10 power FLAW FINDER

Quick-focusing illuminated magnifier—removable handle is a pocket flashlight. $8.95—with leather case, $12.45

40-50-60 power "PEN" MICROSCOPE

Pen size precision instrument with magnification equal to large lab models. With leather case, $17.50

Orders shipped immediately

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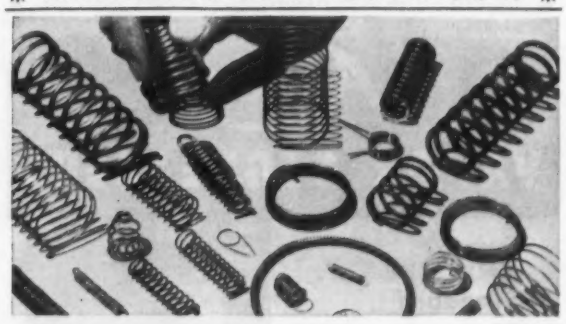
Since 1927—manufactured in the U.S.A. by—

E. W. PIKE & CO., INC.

492 North Ave., Elizabeth, N. J. • ELizabeth 2-0630

For more details circle NED-246 M7 on enclosed inquiry slip

For more details circle NED-247 M7 on enclosed inquiry slip



fine wire

engineered for the toughest jobs

National-Standard specializes in development of wire for springs, wire forms and for unusual direct application:

- Drawn wire in fine sizes of titanium, stainless and high carbon steel with all customary and special finishes.
- Trucoat and Micro-Tin music spring wires (Tradenamed N-S developments).
- Brassply, Copperply and Nickelply electroplated wires (Tradenamed N-S developments).
- Special-purpose wire strand and flat and tubular braid in steel and other metals.

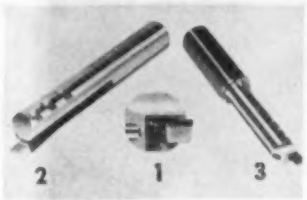
Indicate your requirements and write for details.

National-Standard Company • Niles, Michigan

NATIONAL STANDARD

For more details circle NED-248 M7 on enclosed inquiry slip

BORING BAR for standard and carbide-tip cutters



Boring and counterboring operations can be handled with the Buck boring bar, designed for heavy, rapid cuts with standard and carbide-tip cutters. Front view (1) shows how cutter overhang is minimized for maximum strength and rigidity. Full shank of cutter is held by three locking screws (2). Screw at end (3) adjusts cutter for close tolerance work. Thirty sizes of bars range from maximum-minimum capacities of 1 1/32 to 25/32 in. up to 6¼ to 5 1/32 in. Made by **Buck Tool Co.**, 322 Schippers Lane, Kalamazoo, Mich.

For more details circle NED-249 M7 on enclosed inquiry slip

BORE & HOLE MICROMETERS three-point tools are self-aligning

Three measuring points of the Intrimik bore and hole micrometer make line contact with the surface so that it aligns itself axially and radially. Measurements are read directly. Tool is furnished as an individual tool or in five sets with overall ranges from 0.275-0.5 to 4-8 in. Extensions increase depth at which measurements can be taken up to 15 in., according to model. Checking and calibration is by ring gages, also available from **Brown & Sharpe Mfg. Co.**, Dept. 43, Providence 1, R. I.

For more details circle NED-250 M7 on enclosed inquiry slip

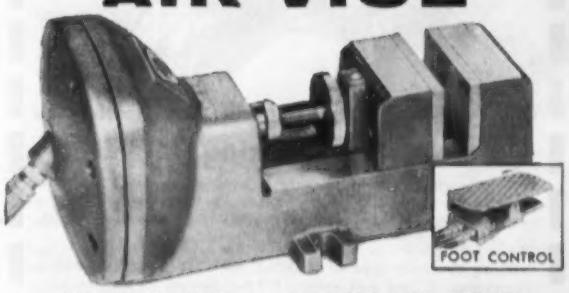
LOW TEMPERATURE FREEZER 6.5 cu ft unit reaches −150° F

Temperatures as low as −150° F can be maintained by the Model SZC-657 freezer, a 6.5-cu ft unit refrigerated by sealed hermetic compressors. Applications include research and processing of metals, chemicals, plastics, and oils. Outside dimensions are 60 x 28 x 42¾ in. Made by **Revco, Inc.**, Dept. NED, Deerfield, Mich.

For more details circle NED-251 M7 on enclosed inquiry slip

For more details circle NED-252 M7 on enclosed inquiry slip

Speedy AIR VISE



HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY 1-TON AIR PRESS

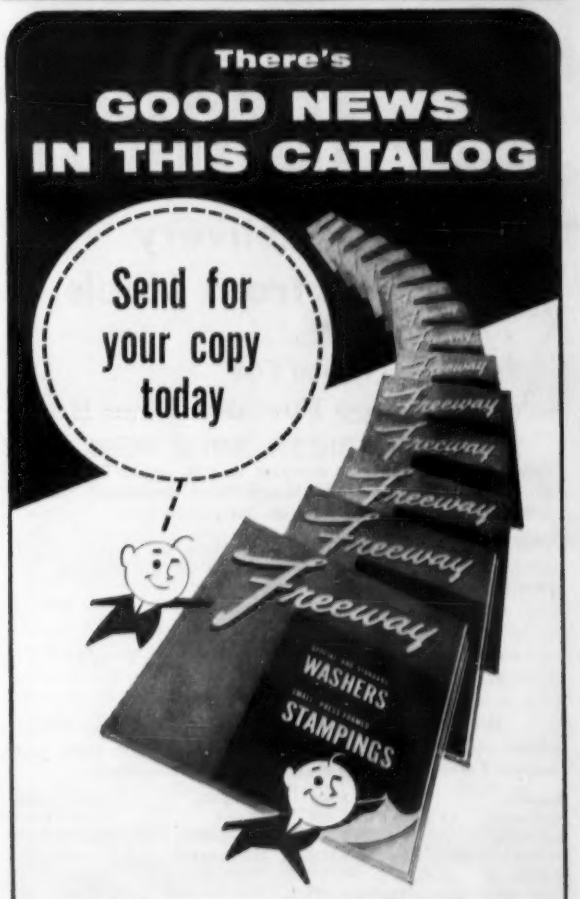
Does the work of expensive presses! Power factor 15 times air line pressure. 5-inch throat; Ram 0 to 5"; stroke ⅝"; table 5" x 5". Operated by foot or fingertip controls. **$85.00**

Order from Your Supplier or Write for Air Tool Catalog

W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

For more details circle NED-253 M7 on enclosed inquiry slip



Whether you use stampings by the thousands or washers by the millions . . . you will find the practical, low-cost answer to your problem in this well-illustrated catalog. You'll learn how Freeway's one-hit processing cuts stamping prices to a minimum . . . and mass-production methods give you precision-type washers for less than you ever thought possible. Listed also are thousands of close-tolerance washer die combinations . . . that are yours "free for the asking" at Freeway. Write for your catalog now!

Another famous Freeway line . . . a full selection of high quality, semi-precision bearings for low RPM use on shafts ¼" through 1". The coupon will bring you complete details.

Gentlemen: Okay . . . send us your Washer-Stamping catalog. Also include ( ) bearing data.

Name .....

Street .....

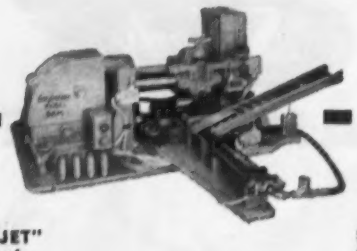
City ..... Zone ..... State .....

Signature .....

Freeway WASHER & STAMPING COMPANY

P. O. Box 1756, Cleveland 5, Ohio

For more details circle NED-254 M7 on enclosed inquiry slip



"ACROJET" Low Cost — Model No. 9AM

Automatic Marking Machine

For automatic marking of parts or products that will roll down a chute or inclined conveyor, nothing is faster, quieter or requires less maintenance than the "ACROJET" Marking Machine.

The "ACROJET" is driven by a gear reduction motor that operates the slide type of marking head. 75 p.s.i. air operates the automatic feed and eject. Perfect for use in line of Automation. Does consecutive numbering, lettering, design or rings, tubes, bushings, sleeves, collars, collets, rolls, drills, taps, bolts, nuts, etc.

The only standardized machine of its kind. Write for Series 9A Catalog and Price list today.

ACROMARK

THE ACROMARK COMPANY
7-11 MORRELL ST., ELIZABETH, NEW JERSEY
"The Original Marking Specialists"

For more details circle NED-255 M7 on enclosed inquiry slip

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This valuable list contains information on Copper Clad grades carried in stock including XXXP-36 and Cirprint . . . plus full details on

13 grades of engraving stock
20 grades of standard sheet stock
9 grades of 36" rod stock with diameters ¼" to 1"
CN End Grain Material

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Charlotte	EXpress 9-0441
Chicago	COrnelia 7-6400
Cincinnati	PRinceton 1-5400
Cleveland	ACademy 1-3400
Dallas	FLeetwood 7-1711
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Detroit	UNiversity 2-3813
Grand Rapids	GLendale 6-7436
Hartford (West Hartford)	ADams 6-2368
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Portland (Ore.)	CApital 8-9211
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FORMICA CORPORATION
Subsidiary of American Cyanamid, 4551-7 Spring Grove Ave., Cincinnati 32, Ohio

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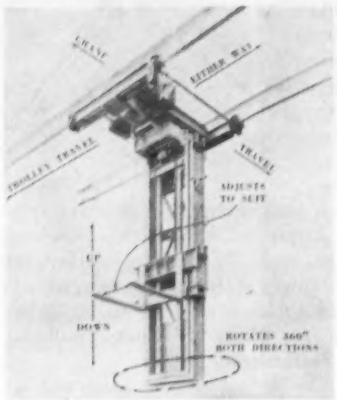
☐ Include copy of Formica-4, the complete laminated plastic service

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____

For more details circle NED-256 M7 on enclosed inquiry slip

OVERHEAD FORK LIFT
stacks boxes, rolls, bundles and pallets high in narrow aisles

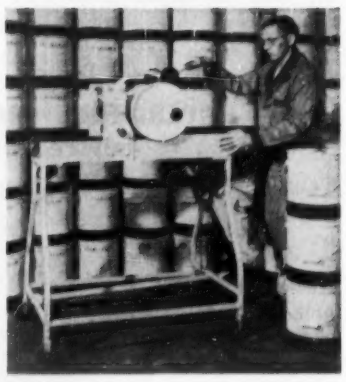


Maximum use of warehouse space is obtained with this overhead fork lift which requires a minimum-width aisleway and makes possible high stacking. Mounted on a crane, it can travel to front, rear, or either side of a building, and moves up and down as well as in a full circle in either direction. Such materials as boxes, crates, rolls of carpeting and paper, pipe, bars, packages of sheets and plates, drums, pallets, and tote boxes can be handled.

Operator controls all operations through a flexible cable from floor level, or a cab or platform can be provided. Various capacities and lifts can be supplied with all motions motorized or manually operated, or any combination thereof. Rotating motion can be omitted. Telescoping (illustrated) or non-telescoping units have capacities of 5000 and 6000 lb, respectively. Forks are available in various sizes and shapes. Made by **Cleveland Crane & Engineering Co.**, Cleveland Tramrail Div., 1143 E. 283rd St., Wickliffe, Ohio.

For more details circle NED-257 M7 on enclosed inquiry slip

5-GALLON CAN PRINTER
portable unit turns out 500 hourly



Inexperienced operator of the portable Print-A-Can 5-gal can printer can turn out up to 500 cans per hour with lithographic quality printing that withstands normal handling and weathering. Bail and tite-head cans, with or without rolling hoop, can be printed by the 160-lb, caster-equipped machine. Rubber printing plates molded from standard typographic forms or hand set by assembling rubber type are used. Printing area is 9 x 14 in. Plates and ink colors are quickly changed. Print-A-Drum accessory is offered for 30 and 55-gal drums. Made by **Chapman Chemical Co.**, Metal Products Div., Dept. N-7, 60 N. Third St., Memphis 1, Tenn.

For more details circle NED-258 M7 on enclosed inquiry slip

LOW COST AIR CYLINDER

The Only Air Cylinder

WITH ALL CONTROLS BUILT-IN

This air cylinder is a complete, "packaged" power unit. Electrical switching controls (1), four-way directional valve (2), and independent speed control valves (3), are all a built-in part of the unit. Only one air connection required yet unit is full double-acting. So revolutionary in design it is known as the Bellows Air Motor. Available in five bore sizes: 1¼", 1¾", 2½", 3⅝" and 4½". Virtually any stroke length. Optional choice of mechanical built-in valve controls.

Write today for free 4-color Booklet

Address Dept. NED 1257. Ask for Bulletin BM-25. In Canada, write Bellows Pneumatic Products of Canada, Ltd., Toronto, Ontario.

739-B

The Bellows Co.
AKRON 9, OHIO

For more details circle NED-259 M7 on enclosed inquiry slip

STOP ELECTRICAL TROUBLES *before they begin with the* **COLUMBIA VOLT-AMMETER**

Know how much current your equipment is pulling . . . spot overloads and short-circuits . . . balance loads . . . minimize electrical hazards. Columbia Type AC-1 Volt-Ammeter saves time, gives accurate readings up to 600 amperes and 600 volts on frequencies from 25 to 400 cycles. Conveniently sized, easy to use. Switch allows operator to quickly select AC ranges: 0/12/60/120/600 amperes; 0/150/600 volts. Readings are taken without circuit interruption. Insulated jaws accommodate conductors up to 1½" diameter or bus bars to 2" x ½".

$57.50 with Voltage Leads and Carrying Case

Write today for Bulletin AC-25 — *Immediate Delivery*

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

For more details circle NED-260 M7 on enclosed inquiry slip

A-B QUALITY — The Sign of QUALITY MOTOR CONTROL

Roller lever—spring return — Rod type—spring return

OILTIGHT LIMIT SWITCHES

Bulletin 802T oiltight limit switches have set the pace for limit switch performance. Compact, yet rugged . . . they are built for millions of reliable operations. A wide selection of actuating mechanisms, with a variety of adjustments, provide flexibility in satisfying various application and operating requirements. For complete information, send for 8-page Bulletin 802T.

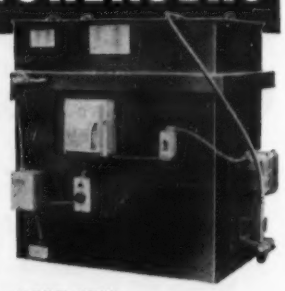
Allen-Bradley Co.
1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

For more details circle NED-261 M7 on enclosed inquiry slip

Aircon VAPOR DEGREASERS

ANY SIZE . . . Standard or Custom



Aircon Vapor Degreasing Systems are available in a complete line, ranging in size, from the smaller bench and barrel-type units to the larger, permanent, high capacity degreasers.

MODEL "75"

Aircon Degreasers are:

Gas, Electric or Steam Heated • Complete Units with all safety equipment

NO EXTRAS TO BUY!

Write today for full information

WE ARE DESIGNERS AND ENGINEERS OF SPECIAL DEGREASING EQUIPMENT. CONSULT US ON YOUR DEGREASING PROBLEMS.

Armstrong & White
CHESWICK, PENNSYLVANIA

For more details circle NED-262 M7 on enclosed inquiry slip

Lift Unbalanced Loads FASTER...MORE SAFELY

CALDWELL Hoisting Equipment

ADJUST-A-LEG SLING

EQUALIZES . . . LOCKS UNDER LOAD

Saves valuable time . . . gives crane operator perfect control at all times. Lifts load level or at any desired angle. Balance point is easily located for level lifts. Sizes ¾ ton to 50 ton. All have 5 to 1 safety factor. Every shop needs Caldwell Slings. Investigate.

WRITE FOR BULLETIN J

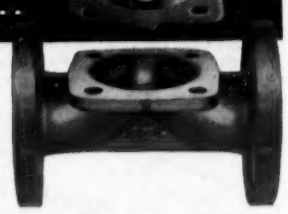
THE CALDWELL COMPANY, INC.
1123 FOURTH AVE., ROCKFORD, ILL.

For more details circle NED-263 M7 on enclosed inquiry slip

Outperforms other valves under SEVERE chemical conditions

GRINNELL-SAUNDERS DIAPHRAGM VALVES

with TEFLON Diaphragms...



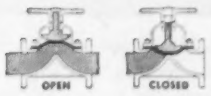
Grinnell Teflon Diaphragms are made by a special process which produces a better product of greater density, toughness and flex life.

The case histories cited below demonstrate that Teflon offers a very high degree of chemical inertness to some of the most difficult chemicals which industry today must handle. Yet these are only a few of many success stories in the Grinnell files.

Diaphragm life depends on temperature, pressure and frequency of operation. Inquiries must include complete service data to receive prompt attention.

Service Conditions	Saunders Valve Now Used	Service Life: Teflon Diaphragm	Service Life: Previous Valve
Case 1. Benzene hexachloride (30%-40% benzene, free chlorine); 120 to 130 F, 10 to 20 psi; operated 3 to 4 times daily	Glass lined bodies; Teflon Diaphragm; 1 to 3 inches	10 to 14 months	1 to 2 months
Case 2. 90%-95% HNO_3 plus 1.8% HF (specific gravity 1.62-1.77) 115 F in summer; 40 F in winter; 125 psi; operated 2 to 3 times daily	Durimet 20 body; Teflon Diaphragm; 1 to 3 inches	8 months	2 months
Case 3. Sulphuric acid 85%; outside temperature; no pressure; operated 4 times daily	Iron Bodies; Teflon Diaphragms; 2½ inches	Still in service after 1 year	3 weeks

Features of Grinnell-Saunders Diaphragm Valves:



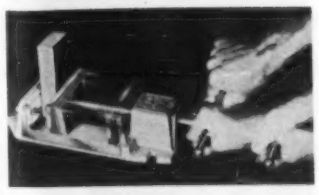
- Diaphragm lifts high for streamline flow in either direction . . . absolutely isolates working parts from fluid.
- Resilient diaphragm assures positive closure.
- Body, lining and other diaphragm materials to suit service conditions.
- Simple maintenance. Diaphragm can be replaced easily without removing valve.

GRINNELL
WHENEVER PIPING IS INVOLVED

Grinnell Company, Inc. Executive Offices: Providence, R. I.
Sales Offices and Warehouses in Principal Cities

For more details circle NED-264 M7 on enclosed inquiry slip

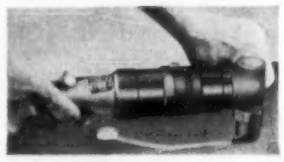
DRILL PRESS VISE screw is engaged automatically



Rapid Titan nut incorporated in this drill press vise engages and disengages the screw automatically. Threads are brought into contact with the screw by rotating the vise handle in the tightening direction. Screw is released for free-sliding action by turning the handle counterclockwise. Nut cannot be damaged by impact, over-tightening, or dirt. Vise is 4½ in. wide, has a solid base, and can be turned on edge for accurate 90-degree drilling. Height is 2¾ in. and jaw depth is 1¾ in. Made by **Wilton Tool Mfg. Co.**, Dept. NED, 9525 Irving Park Rd., Schiller Park, Ill.

For more details circle NED-265 M7 on enclosed inquiry slip

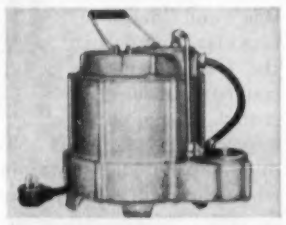
AIR-POWERED NIBBLER cuts up to ⅛-in. mild steel



Sharp, clean cuts are made without distortion in up to ⅛-in. thick mild steel at rates to 6 fpm with this portable air-powered nibbler. Tool will cut even thicker soft metals and plastics. Cut can be started anywhere in sheet through an access hole. Right or left hand rams are available for work on curved or corrugated surfaces. Replaceable punch and die can be resharpened easily. Made by **Buckeye Tools Corp.**, 5017 Springboro Pike, Dayton 39, Ohio.

For more details circle NED-266 M7 on enclosed inquiry slip

SUBMERSIBLE PUMP improved for 5000 gph capacity



Improvements incorporated in the cast-bronze Model 110 submersible pump increase its capacity to 5000 gph at 10-ft head, with a 30-ft shutoff head. Pump can thus handle heavy-duty sump jobs in utility tunnels, elevator pits, and transformer vaults; remove factory wastes and air conditioning condensate; dewater flooded basements; or circulate coolants, oils, or other liquids. High torque ½-hp motor directly drives non-clogging impeller. Ceramic seal-seat mounted on impeller back seals motor shaft from fluid. Non-automatic, fully automatic, and manual-automatic controls are available. Optional Hi-Turn-On control allows pump to turn on from 9 in. to 7 ft in extra deep sumps. Made by **American Crucible Products Co.**, Kenco Pump Div., Dept. NED-202, 1305 Oberlin Ave., Lorain, Ohio.

For more details circle NED-267 M7 on enclosed inquiry slip

with **Gasoila-Amazing JOINT & SEALING COMPOUND**

Stop those leaks instantly, permanently, safely, economically! Gasoila does a perfect job . . . seals threaded connections, face joints, seams, gaskets. Over 40 years of wonderful results — no failures! Used everywhere . . . petroleum refining, pipe lines, tanks, aircraft, automotive, refrigeration, air conditioning, oil burners, ships, boats, etc., etc.

STAYS ELASTIC • Easy to apply • Makes positive joint — but easy to take apart • Prevents corrosion • Withstands vibration • Write for FREE BULLETIN or ask for Small Sample

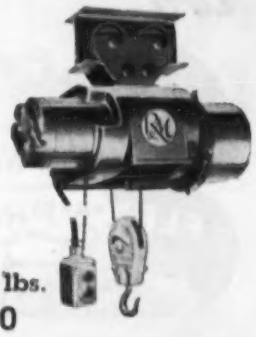
Insoluble in Gasoline, Oil, Water, Freon, Butane, etc. Underwriters Lab. Approved

FEDERAL PROCESS CO.
1120-A Citizens Bldg. • Cleveland 14, Ohio

For more details circle NED-268 M7 on enclosed inquiry slip

R&M HOISTS • CRANES • WINCHES

GET MORE "BIG HOIST" FEATURES in Robbins & Myers "J" HOISTS

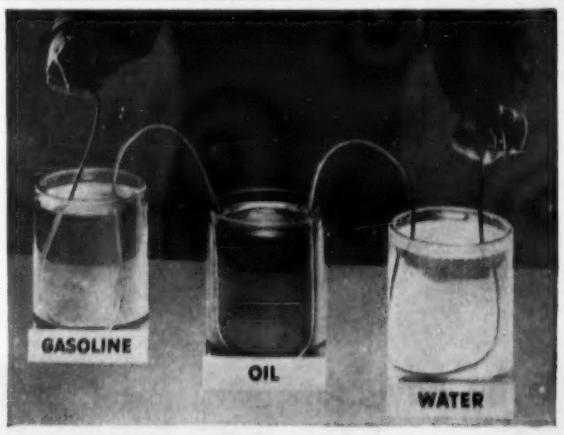


capacities 500 to 4000 lbs.
prices start at $295.00

"Big Hoist" features of the "J" include: Heat treated gears, precision ground shafts, sealed or splash lubricated ball bearings, plow steel cable, rugged limit switch, ball bearing sheave block, forged steel hook, shoe-type motor brake, Weston-type load brake, push-button control, hook, lug, or plain trolley mounting. Speed choice 15, 19, or 30 fpm, lift choice 10 or 20 feet. Write for Bulletin 851-B.

take it up with **ROBBINS & MYERS, INC.**
SPRINGFIELD, OHIO | BRANTFORD, ONTARIO

For more details circle NED-269 M7 on enclosed inquiry slip



NEW WIRE RESISTS ALL 3

This is Anaconda's new Dentrol wire—approved by Underwriters' Laboratories for direct exposure to gasoline and oil. Made with a clear nylon jacket overall, Dentrol affords new safety wherever wiring is exposed to gasoline or oil—new economy over lead-covered cable used up to now in these areas. Recommended for 600 volt wiring for lighting and control in and around refineries, tank farms, service stations, and industrial plants where TW wire may be used and is exposed to gasoline and oil. Write for full information to: Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.

ANACONDA®

For more details circle NED-270 M7 on enclosed inquiry slip

Features information* NEVER AVAILABLE BEFORE *in slide chart form

For the first time, with slide chart ease, convenience, and accuracy, you can put your finger quickly on a host of facts such as speeds and feeds for machining, drilling and threading stainless steels.

Second side is an up-to-date version of Carpenter's earlier issue Slide Chart. Contains all you need know to select the proper stainless for drawing, forging, heading, welding, roll forming, etc. Get your copy of this pocket-size reference today!

THE CARPENTER STEEL COMPANY
116 W. Bern St., Reading, Pa.

Please send me a copy of your new Carpenter Stainless Slide Chart. (Please print)

Company Name_____
Individual Name_____ Title_____
Address_____
City_____ Zone_____ State_____

For more details circle NED-271 M7 on enclosed inquiry slip

New Efficiency

The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy

FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before filter replacement is necessary.

Sample: $1.50 postpaid
(INDUSTRIAL PRICE ONLY)

FLEXO PRODUCTS, INC. Westlake, Ohio

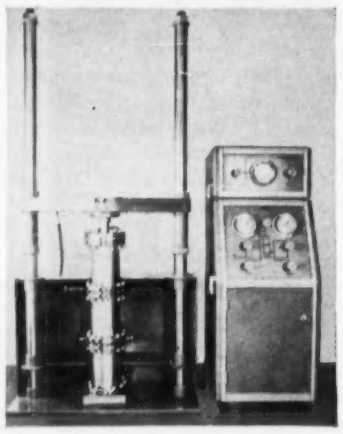
For more details circle NED-273 M7 on enclosed inquiry slip

LABORATORY BURNER has 800 to 1000° C range

This electrothermal Bunsen-type burner with element temperature range of 800 to 1000° C can be used for numerous laboratory applications. Burner operates on 110 v 50/60 cycle ac, is clean and silent, and is unaffected by draft. Radiation from heater is upward only so that it can be used to heat test tubes, crucibles, small flasks, and beakers, independent of their shape. It can be used inverted as a heat source for evaporation. Burner consists of a formed replaceable heating element mounted in top of a vertical tube, inside a supporting case. Air circulation holes in lower part of casing allow unit to be held in the hand while operating. Made by **Gardner Laboratory, Inc.**, Dept. NE, Box 5728, Bethesda 14, Md.

For more details circle NED-275 M7 on enclosed inquiry slip

DYNAMIC SHOCK TESTER simulates in-use shock on equipment



Thrusts up to 40,000 lb are produced instantaneously by the HY-6000 dynamic shock tester in simulating shock experienced by equipment in actual use. Shock pulses are accurately controllable for both waveform and acceleration and deceleration level, whether the waveform is square, triangular, cosine, or sine pulse. Repeatability is exact. Tester is essentially a 6-in. diameter cylinder containing a piston which is subjected to differential pressures on its two faces. Variety of tester configurations is available to meet various applications. It is also offered in kit form. Made by **Consolidated Electrodynamics Corp.**, Rochester Div., 1775 Mt. Read Blvd., Rochester 3, N. Y.

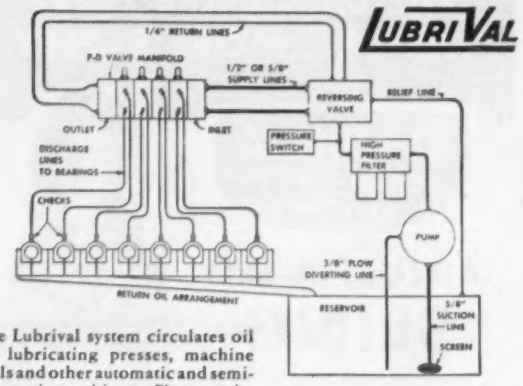
For more details circle NED-276 M7 on enclosed inquiry slip

Multipurpose Lifter-Dumpers

Essex Conveyors, Inc.—Application photos showing how Cesco skip hoist multipurpose dumpers are being used to handle bags, boxes, bulk materials, drums, and free-flowing material are found in 8-page catalog. Cesco Jr. unit for lifting, up-ending, and dumping loads weighing up to 400 lb is also described. Specifications of all models are given.

For more details circle NED-277 M7 on enclosed inquiry slip

A new way to circulate lubricating oil...



The Lubrival system circulates oil for lubricating presses, machine tools and other automatic and semi-automatic machinery. Flow can be regulated over a range of 10 fluid ounces to one gallon per minute.

Oil is pumped under pressure from a reservoir to measuring valves which deliver it under pressure to bearings. Valves are manifolded in any number required and have individual sight indicators. The return oil arrangement must be built into the machine design.

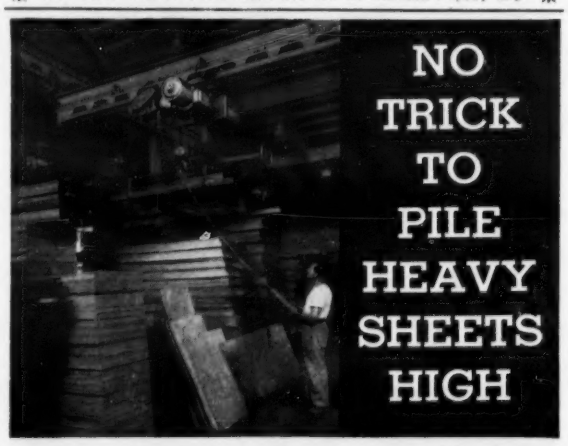
Diagram above shows components of a typical Lubrival system.

FARVAL CENTRALIZED SYSTEMS OF LUBRICATION

Write for Bulletin 70 for description and specifications

The Farval Corporation
3283 E. 80th St. • Cleveland 4, Ohio
Sales Representatives in all major industrial market centers

For more details circle NED-279 M7 on enclosed inquiry slip



A Cleveland Tramrail overhead crane system permits far more steel being stored in a building because it can be piled high and because wide aisleways required for floor conveyances are not necessary, thus, much of this space can be used for storage. Many warehouses prefer 5-ton cranes to take advantage of economies gained on purchase and handling of 5-ton packages.

Write FOR BOOK NO. 2008

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6656 East 285th St., Wickliffe, Ohio

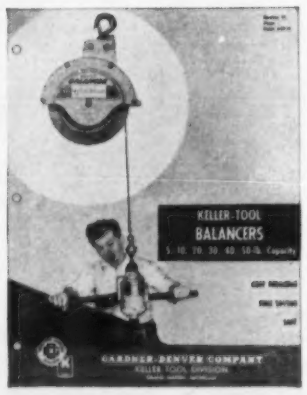
CLEVELAND TRAMRAIL

For more details circle NED-280 M7 on enclosed inquiry slip

NEW DESIGN in tool balancers

Bulletin 65-11 tells how Keller Tool Balancers

- *Reduce* tool operator motion
- *Reduce* operator fatigue
- *Prevent* tool damage due to dropping



Keller Tool Balancers are available in seven models. Two for light suspension of screw drivers, nut setters, drills, tappers. Five for heavy-duty balancing in 20-, 30-, 40-, 50-, 60-lb. capacities.

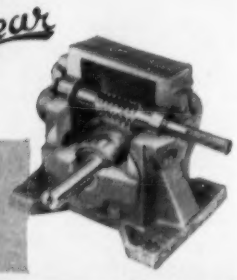
REQUEST FREE BULLETIN 65-11

ENGINEERING FORESIGHT—PROVED ON THE JOB IN GENERAL INDUSTRY, CONSTRUCTION, PETROLEUM AND MINING

GARDNER-DENVER
Gardner-Denver Company, Quincy, Illinois

For more details circle NED-281 M7 on enclosed inquiry slip

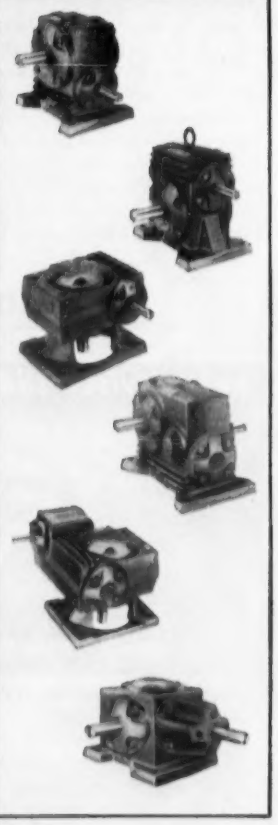
BOSTON Gear SPEED REDUCERS



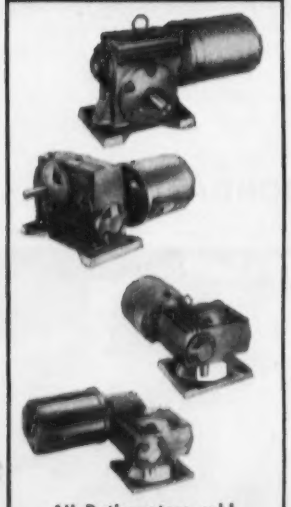
1605 TYPES and RATIOS FROM STOCK

Why pay more for specials?

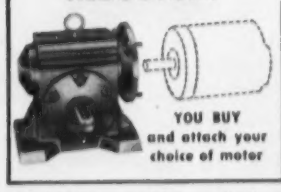
REDUCTORS Ratios 1:1 to 3600:1 .004 to 50 HP



RATIOMOTORS Output RPM .49 to 175



All Ratiomotors sold also without motors as **FLANGED REDUCTORS**



YOU BUY and attach your choice of motor

Models for any drive . . . horizontal or vertical — right angle or parallel — single or double reduction.

CATALOG No. 56 lists full information — helpful engineering data. Boston Gears Works, 69 Hayward St., Quincy 71, Massachusetts.

CALL YOUR **BOSTON Gear** DISTRIBUTOR

For more details circle NED-274 M7 on enclosed inquiry slip

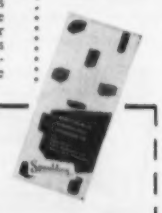
THERE'S NO SPLINTERING, RUSTING OR CORROSION WITH

Spaulding VULCANIZED FIBRE MATERIALS HANDLING PRODUCTS

RESISTANT to oils, greases, moisture
WITHSTANDS impact and abrasion

Tough, smooth and durable, Spaulding Materials Handling Products last years longer and reduce replacement costs. Investigate the possibilities for improvement that Spaulding has for your materials handling system. Write for free catalog of information on Spaulding's standard and specially made tote boxes, trucks and barrels.

send for FREE catalog



SPAULDING FIBRE CO., INC.
Dover, N. H.

Please send me your free catalog of Spaulding Vulcanized Fibre materials handling products.

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Firm
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City Zone State

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Get New Data on all 3 Infrared Heating Units!

Get New Bulletins Now!

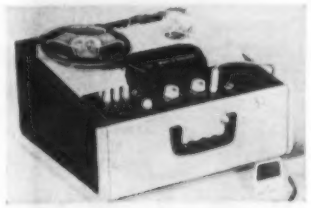
Whether you select components or complete ovens for swift, safe, sure processing . . . your one source of radiant equipment for all three sources of infrared heat is the pioneer manufacturer . . . *Fostoria.* Get better acquainted with this modern low-cost way to heat, dry, cure, bake and finish products, materials and parts. Write now and ask for "All 3 Infrared Bulletins." Address:

fostoria

FOSTORIA PRESSED STEEL CORPORATION
Dept. 1208 • Fostoria, Ohio 5515

For more details circle NED-282 M7 on enclosed inquiry slip

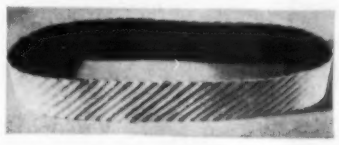
PORTABLE TAPE RECORDER
has two speeds, two 5¼-in. speakers



Five pushbuttons for stop, forward, rewind, play, and record are conveniently grouped on the Model 770 portable tape recorder. Housed in a washable luggage-type case, it has tone control from treble to bass and a variable volume control. Record and play buttons are interlocked to preclude accidental erasing. Recorder has two 5¼-in. speakers and can be operated at 3¾ or 7½ ips. A 1200-ft reel can be rewound in 80 seconds. An input jack for microphone, record player, or radio, and an output jack for an external speaker are located on the front of the recorder. Overall frequency response is 50 to 13,000 cps at 7½ ips speed. Made by **Bell & Howell Co.,** 7100 McCormick Rd., Chicago 45, Ill.

For more details circle NED-285 M7 on enclosed inquiry slip

POLISHING BELT
features ribbed construction



Improved polishing action, cool operation, long wear, and efficient carrying of polishing agents are reported to result from ribbed construction of this felt polishing belt. Possibility of burning or clouding is minimized. Diagonal ribbed surfaces aid in following difficult contours. As the ribs gradually flatten in service, clean new surfaces are brought to bear on the work. A laminated layer of Orlon eliminates belt stretch. All sizes are available from **Shaw Belting Co.,** 151 William St., Middletown, Conn.

For more details circle NED-286 M7 on enclosed inquiry slip

RADIATION SURVEY METER
new battery operates 1000 hours

Improved AGB-500-SR portable radiation survey meter which replaces the Radector series for use in industrial radiography, isotope labs, and Civil Defense monitoring has a new battery which operates continuously for more than 1000 hours. Logarithmic response allows coverage of 0.5 to 500 roentgens per hour in only two ranges, accurate within ±15 per cent of true dose rate at any intensity. Instrument is sensitive to beta and gamma radiation. Self-contained radioactive source is used to check calibration. Made by **Jordan Electronics Co.,** Westminster & Mission Sts., Alhambra, Calif.

For more details circle NED-287 M7 on enclosed inquiry slip

You and KESTER Can Lick Any Soldering Problem!

Kester, with more than fifty years experience in solving every conceivable type of soldering problem, is the only company to turn to for a fast economical solution. No problem is too large or too small and what's more, there's no obligation involved for this engineering service.

KESTER SOLDER

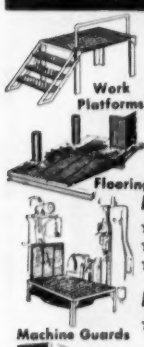
COMPANY 4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

For more details circle NED-288 M7 on enclosed inquiry slip

FOR MAXIMUM SAFETY

all over your plant use Safety GRIP-STRUT

the new basic material, all in one piece (including channels), not welded, riveted or expanded in steel or aluminum, in standard sizes and gauges. Safety GRIP-STRUT presents an open space, in a diamond pattern, in excess of 55% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads.



Important Safety Features

- ★ Fire proof
- ★ Slip proof
- ★ Maximum strength
- ★ Minimum weight
- ★ Easy to stand on
- ★ Cool in summer — warm in winter

Big Economy Features

- ★ For balconies—no extra light needed below—no extra heat.
- ★ No extra supports necessary—channels are integral part of the material
- ★ No secondary sprinkler heads needed
- ★ Self-cleaning
- ★ Cut and installed like lumber by your own maintenance force
- ★ Low in original cost

Distributors in all principal cities. Consult yellow pages in phone book under "GRATING."

Write for Catalog

PRODUCTS DIVISION
THE GLOBE COMPANY • *Manufacturers since 1914*
4002 S. PRINCETON AVE. • CHICAGO 9, ILL.

For more details circle NED-283 M7 on enclosed inquiry slip

it's NEW! it's PNEUMATIC! it's THE FIRST OF ITS KIND . . .

Brainard's New Pneumatic Stretcher and Cutter for Heavy Duty Strapping . . . offers these *Advantages*

- ★ Only Pneumatic Heavy Duty Strapping tool of its kind.
- ★ Specially designed for heavy duty strapping on pallets, skids, car bracing, and large bundles.
- ★ Pneumatic power insures uniform tension on each band.
- ★ Pneumatic power does the work. Eliminates operator fatigue.
- ★ Rugged construction assures minimum down time for tool maintenance.
- ★ Tool is light weight and portable.
- ★ Because of less operator fatigue, tool is more productive during work shift.
- ★ Operates on any flat stock or flat package.

Brainard Steel Strapping

SHARONSTEEL

Brainard Steel Division, Sharon Steel Corporation
Griswold Street, Warren, Ohio

For more details circle NED-289 M7 on enclosed inquiry slip

Everyone "Mikes" accurately with a FEDERAL MIKEMASTER

Clamping Ring
Deeply knurled. Locks spindle evenly and tightly.

Tungsten Carbide Anvils
Ground, lapped and polished to be flat and parallel.

Uniform Anvil Pressure
Assures consistent accuracy regardless of "feel" of the operator.

Dull Chrome Plating
Provides attractive, long wearing finish and non-glare contrast for barrel graduations.

Push Button Anvil Retraction
Provides ample clearance for quick insertion or instant release of workpiece.

Tolerance Hands
Are set by these two setting screws and colored in red for optimum visibility.

Accurate Measuring Threads
Large, highly precise and uniform; permit easy, accurate, turning of barrel throughout its length.

Clear Graduations
Black, sharp, widely spaced; easy to read against dull chrome. Vernier provided for set-up. Range 0" to 1".

Quick Reading Indicator
6 jewel, Low Friction Movement; clearly marked, clearly calibrated scale graduated in .0001".

The Mikemaster gages with the same uniform pressure, regardless of who is using it. It's fast, easy to read, and outstandingly accurate . . . widely used both as a Micrometer and an Indicating Snap Gage. Try this handy tool on your own work! Send for descriptive folder.

Federal Products Corporation
71712 Eddy Street • Providence 1, R. I.

Ask **FEDERAL** *First*

FOR RECOMMENDATIONS IN MODERN GAGES . . .

Dial Indicating, Air, Electric, or Electronic — for Inspecting, Measuring, Sorting, or Automation Gaging

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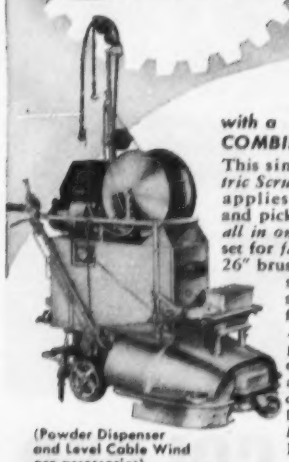
MECHANIZE all Scrubbing Operations into 1



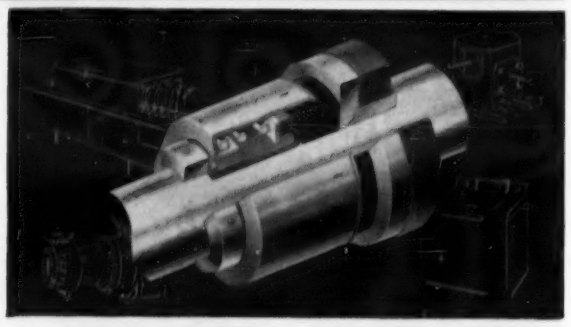
with a
COMBINATION SCRUBBER-VAC!

This single unit, *Finnell's 213P Electric Scrubber-Vac* for large-area floors, applies the cleanser, scrubs, flushes, and picks up (damp-dries the floor) — *all in one operation!* No switches to set for *fast* or *slow*. *Self-propelled* . . . 26" brush spread. Cleans up to 8,750 sq. ft. per hour (and more in some cases), depending upon floor condition and congestion. Available on lease or purchase plan. *Finnell* makes a full range of sizes, and *gasoline* or *propane* as well as *electric* models. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5512 East St., Elkhart, Ind.

(Powder Dispenser and Level Cable Wind are accessories)

FINNELL SYSTEM, INC. *Originators of Power Scrubbing and Polishing Machines* — FINNELL — BRANCHES IN ALL PRINCIPAL CITIES

For more details circle NED-290 M7 on enclosed inquiry slip



THE PACKAGED SEAL *of a hundred uses*

This Garlock MECHANIPAK* Seal BB-21A has proved itself on hundreds of jobs, sealing against water, oils, alcohol, mild acids, and solvents. It's ideal for shafts on centrifugal pumps, automatic washers, speed reducers, commercial dishwashers . . . wherever pressures do not exceed 150 psi.

Withstands temperatures to 212° F. with standard bellows or up to 400° F. with silicone rubber bellows . . . shaft speeds to 2000 fpm and higher depending on operating conditions. Sizes for ⅜" to 3" dia. shafts. Mechanical drive arrangement is engineered to eliminate slippage and simplify installation. Write for Catalog AD150.

*Registered Trademark

THE GARLOCK PACKING COMPANY, Palmyra, N.Y.

For Prompt Service, contact one of our 30 sales offices and warehouses throughout the U. S. and Canada.

GARLOCK

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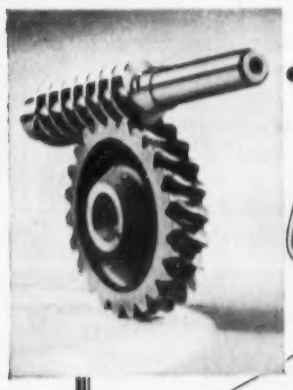


ABART Gears

ARE PRECISION-CUT TO YOUR SPECIFICATIONS

Any gear material . . . any quantity. 96 pitch to 5/7 D P ¼" P.D. to 18" P D

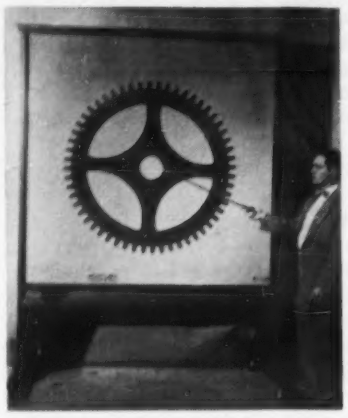
Send B/P and specs or sample for quotation. Write for Abart Gear Bulletin.

There's an Abart Speed Reducer for your need. Over 75 types and sizes from stock. Request Speed Reducer Catalog.

ABART GEAR and MACHINE CO.
4631 WEST 16th STREET • CHICAGO 50, ILLINOIS

For more details circle NED-292 M7 on enclosed inquiry slip

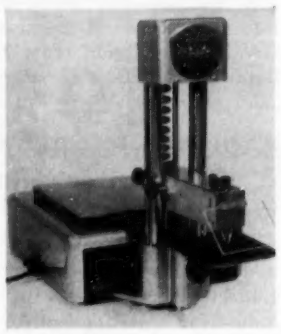
REAR PROJECTION SCREEN
can be viewed in full room light



Flexible plastic, durable rigid Plexiglas (acrylic plastic), and permanently rigid glass are transformed by the Lenscreen process into a rear projection screen which accurately reproduces image contrast and color in any level of room illumination. The screen does not reflect or radiate room light, thereby permitting the projector to supply only the lighted areas of the image. Shadows are provided by the screen. Plexiglas screen shown is 6 ft square and has a small watch gear silhouetted upon it, enlarged 100 times. Colored chalk can be used on the screen surface to supplement the visual picture. Panels of 1/16 to ¼-in. thick are cut to size for custom use. Thicknesses of ¼, ⅜, and ¼ in. are offered in sizes to 100 x 120 in. Larger sizes require bonding of sheets edge-to-edge. Made by **Polacoat Inc.**, 9798 Conklin Rd., Blue Ash, Ohio.

For more details circle NED-293 M7 on enclosed inquiry slip

RESISTANCE WELDER
welds parts to printed circuit or etched wiring boards



Series type welds made by the Weldmatic Model 1030 resistance welder permanently join components to printed or etched circuit wiring boards. Two simultaneous welds are made from one side of the work with twin upper electrode arms contained in a single welding head. They are electrically independent, are individually and continuously adjustable for pressure settings up to 25 lb, and are also adjustable for position and spacing.

The bench-mounted welder has self-contained power supply, adjustable swing type foot pedal, insulated table electrode for single surface welding, and standard lower electrode arm for normal spot welding. Stepless heat control provides heat energy output from 0.1 to 80 watt-seconds. Separate power supplies are available for up to 250 watt-seconds. Made by **Unitek Corp.**, Weldmatic Div., Dept. NED, 380 N. Halstead Ave., Pasadena 8, Calif.

For more details circle NED-294 M7 on enclosed inquiry slip

KEEP MACHINES RUNNING
...reduce maintenance costs,

with DEUBLIN ROTATING UNIONS

¾" Size Union Illustrated

for water, steam and air service!

Here is a compact, efficient rotating union—

- ★ LEAKPROOF
- ★ CORROSION PROOF
- ★ EASY TO SERVICE
- ★ VIRTUALLY FRICTIONLESS
- ★ PRECISION BUILT FOR LONGER LIFE
- ★ INTERCHANGEABLE with any other rotating union
- ★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
- ★ MINIMUM TORQUE makes it ideal for high speed applications

See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

Write today for full details and prices.

DEUBLIN COMPANY
1151 Waukegan Road
Glenview, Ill. (Chicago Suburb)

For more details circle NED-295 M7 on enclosed inquiry slip

Edmont Case No. 617: For inspecting rough castings, Edmont recommended a heavy duty plastic palm coated glove (Grappler No. 362) which outwore leather palm gloves 17 shifts to 6, cutting costs from 14c to 6c per-man-per-shift.

Edmonts saved 57% of glove cost

No. 362 Grappler Palm coated safety cuff

In case above, the Edmont-recommended glove outwore leather palms nearly 3 to 1 because it fit the job of handling rough castings. Its reinforced "Durox" plastic coating also outwears ordinary plastic coatings up to 50%. Curved-finger, wing-thumb pattern gives perfect fit, maximum comfort.

Free Test Offer to Listed Firms: We make over 50 types of job-fitted gloves. Describe your operation, materials handled and temperature condition. We will recommend correct gloves and, without cost, send samples for on-the-job testing.

Edmont JOB-FITTED **GLOVES**

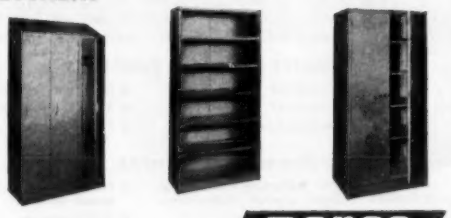
Edmont Manufacturing Company
1240 Walnut Street, Coshocton, Ohio
In Canada write MSA, Toronto

For more details circle NED-296 M7 on enclosed inquiry slip

PENCO DESIGNS FOR EXPANSION IN BUSINESS

Unit construction enables Penco Steel Shelving to follow the changing pattern of a growing business. Standard widths, depths and heights of parts and accessories make it easy to change, rearrange, diversify or expand. Write for Catalog NE-57-1.

penco "Perma-Built" STEEL LOCKERS — *penco* STEEL SHELVING — *penco* STEEL CABINETS



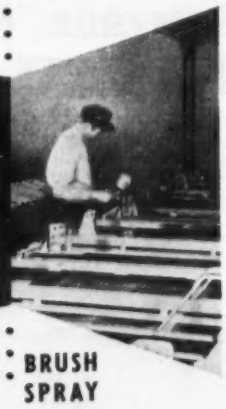
penco STEEL LOCKERS CABINETS · SHELVING

penco METAL PRODUCTS DIVISION
ALAN WOOD STEEL COMPANY
OAKS, PA.

For more details circle NED-297 M7 on enclosed inquiry slip

GET THE MAXIMUM RUST PROTECTION ONLY

DRYGALV
ZINC COATING PROVIDES



can be applied by • BRUSH • SPRAY

To rustproof iron and steel, prevent corrosion at welded joints, repair damaged galvanized surfaces the fastest, most effective way, use DRYGALV zinc coating. This very efficient product:

- Contains approximately 95% metallic zinc in the dried film
- Provides excellent cathodic protection
- Can be painted over after 8 hours
- Can be applied by brush or spray after removing loose rust and scale
- Is non-toxic, dries to the touch in 15-30 minutes and withstands the 1000 hour salt spray test

Get more details on this practical, economical protective coating. Write or call

AMERICAN SOLDER & FLUX CO.
19th & Willard Streets, Philadelphia 40, Pa. • BAldwin 6-1800

Warehouse Service in:
PHILADELPHIA, PA. ALHAMBRA, CALIF. NEW ORLEANS, LA.

For more details circle NED-298 M7 on enclosed inquiry slip

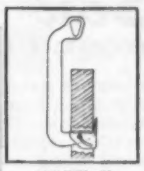
One-Motion Reel Loading Cuts Time and Costs!

DIXON One-Man COIL GRAB

MODEL A COIL GRAB
Wedge separates coils easily. Lifts and turns in one motion.

The Dixon Coil Grab saves labor and speeds coil handling by enabling one man to lift, turn and load coil on the stock reel with a single, easy motion. Forged steel wedge speeds separation of stacked coils. Positive grip and support eliminate coil damage, assure operator safety. Standard models available from stock. Capacities from 1,000 to 5,000 and 10,000 to 15,000 lbs., for coil widths ¼" to 48".

ALL MODELS AVAILABLE FROM STOCK



MODEL H COIL HOOK
Pivoting shoe supports, turns, and locks coil in position in one motion.

FREE BULLETIN
Illustrates standard models and shows how to handle all coil sizes safely, rapidly, without damage. Write for it today.

DIXON

DIXON AUTOMATIC TOOL, INC.
2302 — 23rd Avenue
ROCKFORD, ILLINOIS

AUTOMATIC PARTS HANDLING AND ASSEMBLY EQUIPMENT

▲ For more details circle NED-299 M7 on enclosed inquiry slip ▲

FOR MAKING SERVICE CONNECTIONS QUICKLY, EASILY!

SKINNER-SEAL SERVICE SADDLE

For steel, cast iron and Transite pipe. Single massive bolt. Sizes: 1"-12" inclusive. Write for free catalog today!

M. B. SKINNER CO., SOUTH BEND 21, IND.

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Start where you please— SAW with ease . . .

KETT Panel Master HEAVY DUTY SAW

Zips through aluminum, Fiberglas, plastics, plastic laminates, even 16-gauge steel with minimum effort, maximum speed. Its performance is outstanding on metal laminates such as Mirawal, Metalwal, Met-L-Wood and Amorply.

- Rugged 2-in. diameter saw blades give full ⅜" depth of cut.
- Powered with heavy-duty industrial-type 110 volt AC/DC portable 5/16" capacity electric drill motor. Ball bearing equipped drive for smoother operation.
- Leaves accurate, smooth milled edge that requires no sanding or finishing.

Write for Catalog E-24

THE KETT TOOL COMPANY
5051 Madison Road
Cincinnati 27, Ohio

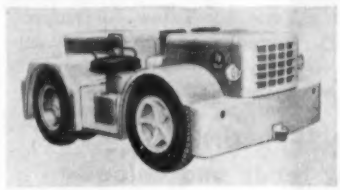
▲ For more details circle NED-301 M7 on enclosed inquiry slip ▲

SAFETY SPECTACLES for use by plant visitors

Low cost of this safety spectacle makes it practical as a give-away item to plant visitors. Frame is styled in the new eye shape and is molded of cellulose acetate in demi-amber color. The 0.052-in. thick clear plastics lenses are impact resistant. It fits all types of faces, with or without prescription glasses, and weighs less than 1 oz. Made by **Industrial Products Co.**, 2807 N. Fourth St., Philadelphia 33, Pa.

▲ For more details circle NED-302 M7 on enclosed inquiry slip ▲

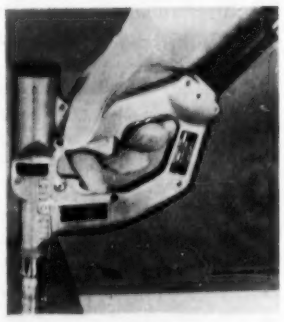
TOWING TRACTOR has 15,000-lb drawbar effort



Power steering, four-wheel power brakes, power-shifted transmission, dual rear tires, planetary type final drive, and choice of gasoline or LP-gas power are features of Model T-150 Paymover towing tractor. Travel speed is up to 22 mph. Compact, maneuverable unit develops 15,000-lb drawbar effort and can move objects weighing up to 250,000 lb. Head and tail lights are standard. Accessories and attachments include two-way radio, aircraft engine starting system, cab, snow plow, sweeper, and winch. Made by **Frank G. Hough Co.**, 746 Seventh Ave., Libertyville, Ill.

▲ For more details circle NED-303 M7 on enclosed inquiry slip ▲

SPOT WELDING ACCESSORY enables weld to cool slowly



Automatic regulation of the cooling rate of Aircospot welds on light gage metals is function of the Crater Eliminator Control accessory. Arc does not end abruptly when the trigger is released to stop welding action; instead, the arc's intensity drops to a lower level before it extinguishes. This minimizes the tendency toward weld cracking in certain metals caused by rapid cooling. Post-weld current intensity and heat time are adjustable. Improved Aircospot gun has a spatter trap which keeps molten metal particles out of the nozzle. Equipment is designed for manual production of inert-gas-shielded tungsten-arc spot welds from only one side of a joint. Made by **Air Reduction Sales Co.**, Dept. NED, 150 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-304 M7 on enclosed inquiry slip ▲

New Vacuum Pumping Savings

NRC Rotary Gas Ballast Pump Model 100M. Other units with capacities from 1¼ to 400 CFM; blank-offs down to 5×10^{-5} mm. Hg.

are reported by users of NRC Rotary Gas Ballast Mechanical Vacuum Pumps. These pumps maintain their original high efficiency even when handling water and other condensable vapors. They have proved in thousands of installations that they save money three ways:

1. **Lower First Cost**—because no oil reclaiming equipment is needed.
2. **Lower Operating Cost**—because cycles are shortened by ability of pumps to maintain top speed throughout cycle after cycle.
3. **Lower Maintenance Cost**—because labor and material costs for frequent oil changes are avoided.

Send today for 16 page Bulletin 29-M.

NRC EQUIPMENT CORPORATION
SUBSIDIARY OF NATIONAL RESEARCH CORPORATION

▲ For more details circle NED-305 M7 on enclosed inquiry slip ▲

BIG DIVIDENDS from a small Investment

the handy Hansen AUTOMATIC ONE-HAND TACKER

Here is one of the smartest investments you can make . . . and a very small one too, BUT it will reward you with BIG dividends! The HANSEN High Speed Tacker will solve all of your household and shop tacking problems better . . . faster . . . neater and with very little effort. After using it, you'll say "it's worth its weight in gold."

For every tacking job — screens — upholstering — labeling — shelving — insulation — lathing — posters — displays and numerous do-it-yourself applications, you will appreciate a HANSEN Tacker . . . the ideal gift for anyone!

T1257-1

Request your free booklet today!

A. L. HANSEN MFG. CO.
3164 RAVENSWOOD AVE. CHICAGO 40, ILL.

▲ For more details circle NED-306 M7 on enclosed inquiry slip ▲

Solution to Toughest Industrial Braking Problems

GOODYEAR aircraft-type DISC BRAKES—now designed for difficult industrial applications where torque, energy, weight or space are major problems

Faced with difficult braking problems where conventional "off-the-shelf" brakes simply cannot do the job economically, *if at all?*

Get the complete facts on this braking principle developed by Goodyear to control the largest and fastest aircraft in the world—now designed to cope with a host of industrial braking problems which heretofore had engineers stymied. The results are downright spectacular!

Project Engineers or Chief Engineers: Write for a complete on-the-job analysis of how the Goodyear aircraft-type Disc Brake may change the whole performance picture of your project. By return mail you will also get FREE BROCHURE which includes technical data and interesting case histories of this new braking principle's industrial successes. Address: Goodyear, Aviation Products Division, Dept. L-1729, Akron 16, Ohio.

LOOK WHAT IT CAN DO!

Smooth Action—non-self-energizing, it produces equal torque in either direction proportional to the force applied. **Faster Cooling**—has higher kinetic energy absorption capacity than any other industrial brake of comparable size. **Flexibility**—design principle permits almost any combination of torque and energy capacities. **Versatility**—can be operated hydraulically, mechanically, pneumatically or can be spring-set, solenoid-released. **Automatic Adjusting**—hydraulic- and air-actuated units have automatic compensation for lining wear. **Economical**—saves on equipment "down time" due to quick, easy lining replacement.

INDUSTRIAL DISC BRAKES

GOODYEAR AVIATION PRODUCTS

▲ For more details circle NED-307 M7 on enclosed inquiry slip ▲

. . . when there's MULTIGRIP!

Eliminate dangerous—and potentially costly—slippery areas in your plant with USS Multigrip Floor Plate. You can do this because Multigrip Floor Plate has clean-edged, flat-topped risers that give positive traction to feet and wheels. These tough steel plates won't chip, crack or splinter and they're kept clean with hose or broom. On ramps, stairs, aisles, platforms, or floors—wherever you need durability plus safety . . . you need Multigrip Floor Plate. It's available in large plates, eliminating installation waste.

UNITED STATES STEEL CORPORATION, PITTSBURGH • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, CHICAGO
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS multigrip FLOOR PLATE

Sold by leading distributors from coast to coast

UNITED STATES STEEL

For more details circle NED-309 M7 on enclosed inquiry slip

rough CONDITIONS?

U.S. TOTALLY-ENCLOSED MOTORS

Total Protection in every direction

Large savings are being gained by many industries using *enclosed* motors in place of the usual "open" or ordinary protected motor. U.S. Totally Enclosed gives *total* protection in every direction—from corrosion, dusts, abrasives, impact, weather, spray and splash! This means motor dependability . . . long life . . . savings both on motor costs and production continuity!

Protected AGAINST CORROSION ALL EXPOSED PARTS CAST IRON . . . Rust-resistant solid cast iron withstands abuse, wear and corrosion. *Protects* working parts!

Protected BY LUBRIFLUSH FOR LONGER BEARING LIFE New grease forces old grease out—keeps bearings fully lubricated. *Protects* bearing efficiency!

Protected AGAINST INTERNAL HEAT WITH ASBESTOS WINDINGS Nature's greatest heat resistor, asbestos can't carbonize! *Protects* windings against heat!

Protected FROM STRESS AND WARP BY NORMALIZING CASTINGS . . . All cast-iron components are heat-seasoned to stabilize molecular structure. *Protected* against warp!

Write: U. S. ELECTRICAL MOTORS Inc.
Los Angeles 54, Calif. — Box 2058, Milford, Conn.
For complete information about TOTALLY-ENCLOSED MOTORS.

U.S. Electrical MOTORS

For more details circle NED-310 M7 on enclosed inquiry slip

ABRASION TESTER for electric wire insulation

Special wire abrasion head (shown in foreground) enables the Taber Abraser to perform standard tests for evaluating the wear of electric wire insulation. The rotary rub-wear of dual abrading wheels produces a criss-cross abrading action on the specimen at all angles throughout a continuous 360-degree rotation under hot, cold, or dry conditions. Numerical wear rating is indicated by a counter rating at the first sign of the wire breaking through its insulation. Made by **Taber Instrument Corp.**, Section 16, 111 Goundry St., North Tonawanda, N. Y.

For more details circle NED-311 M7 on enclosed inquiry slip

STAMPING TRANSFER UNIT portable unit feeds and unloads single presses or press lines

Standard lift-and-carry type transfer unit can be used to load and unload one press, or can be placed in a line of presses with a continuous transfer bar to provide an automated transfer line. The portable, plug-in machine can be adapted to handle a wide variety of shapes and sizes of stampings. Its lift mechanism operates in a vertical direction, enabling parts to be placed over gage pins for accurate location.

Lift and transfer motions have adjustable strokes. Air-operated, electrically controlled air cylinders control the transfer bar motions, and fingers on the bar pick up the parts. The number of intermediate stations in the feeder unit depends on the press spacing. Standard unit occupies a floor space of about 3 x 8 ft, and length depends on press spacing in automated lines. Made by **Press Automation Systems, Inc.**, Dept. ND, 25418 Ryan Rd., Centerline, Mich.

For more details circle NED-312 M7 on enclosed inquiry slip

Solids-Liquid Separation Media

Multi-Metal Wire Cloth Co.—Metallic media for solids-liquid separation is subject of 32-page illustrated Catalog 57. Wire and filter cloth, Micromesh, Neva-Clog, and Mykro-Pore media are described and illustrated. Specifications of each product; available meshes, textures, and weaves; and many applications are included.

For more details circle NED-313 M7 on enclosed inquiry slip

GREENLEE PRECISION BORING AT LOW COST

Model C-4 HYDRO-BORER

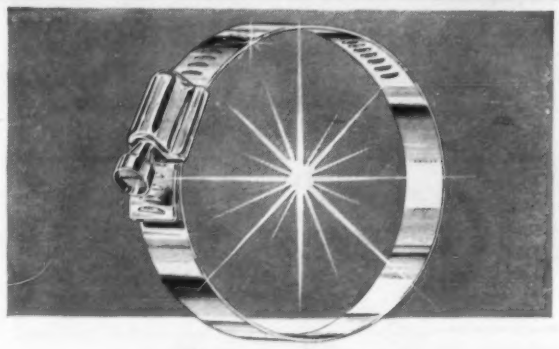
Offers precision boring quality at low cost. Easily mounted on any type of base. Fixtures can be mounted on face of machine.

Quick, easy setups. Rugged, fast, dependable. Designed to produce to the accurate requirements of fine tool work.

Model C-4 HYDRO-BORER
WRITE FOR COMPLETE INFORMATION

GREENLEE BROS. & CO.
2252 MASON AVENUE
Rockford, Illinois

For more details circle NED-314 M7 on enclosed inquiry slip



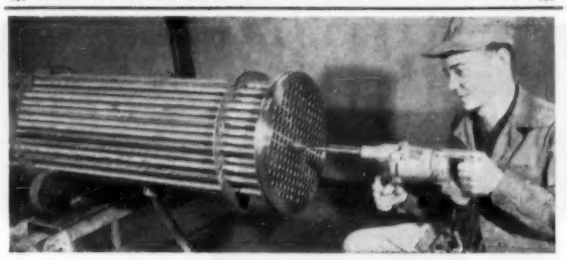
Aero-Seal
THE STAR OF HOSE CLAMPS

In hose clamps, the *quality* name today as always is AERO-SEAL. We pioneered the famous precision worm gear and engineered the *extra strength* and holding power. Other clamps may LOOK like AERO-SEALS, but take a *second* look! Compare quality with price cuts and special discounts. Which pays off best? Compare the worm gear construction. Note that AERO-SEAL worms don't wobble. Look at the special rugged interlocking feature that makes AERO-SEALS hold tight — no spot welding. Note the precision gear that applies uniform pressure — does not pinch hose. Stainless steel bands, complete size range for dozens of fastening uses. Insist on genuine AERO-SEALS.

For added quick-attach advantage, get AERO-SEAL Jets. Nothing like them!

Aero-Seal REGULAR WORM GEAR HOSE CLAMPS
BREEZE CORPORATIONS INC. 700 Liberty Ave., Union, N.J.

For more details circle NED-315 M7 on enclosed inquiry slip



Two-week delivery on heat exchangers

Within two weeks from the date of your order we can ship a fixed tube sheet heat exchanger of 316 stainless steel tubes and carbon steel shell in single- or double-pass design.

Our stockpile of preassembled components covers sizes of 52, 104, 149, 216, and 316 sq. ft. for vertical, horizontal or inclined installation.

Other FTS sizes up to 20″ shell diameter in *just four to six weeks.*

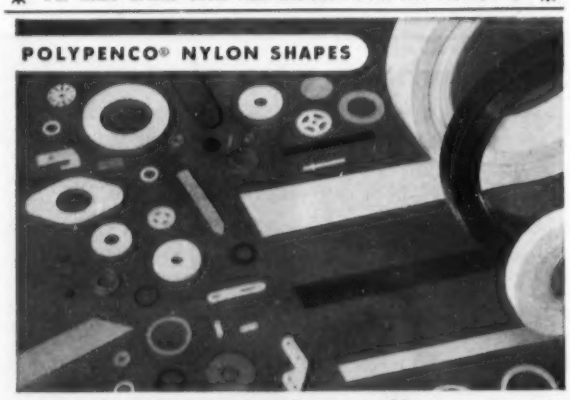
We can also supply, on a reasonable delivery basis, many sizes of stainless steel packed floating head, "U" bundle and internal head designs up to 3000 sq. ft. Custom units include many alloy and glassed steel-alloy constructions.

NEW BULLETIN For 28 pages of informative data on these heat exchangers including applications, types, design specifications, and operating characteristics, write Dept. NED-127 for Bulletin 949, just off the press.

THE PFAUDLER CO.
a division of PFAUDLER PERMUTIT INC., Rochester 3, N.Y.

For more details circle NED-316 M7 on enclosed inquiry slip

POLYPENCO® NYLON SHAPES



Nylon in strip form offers new possibilities in component design

• Designers looking for an economical way to obtain high quality nylon parts of thin cross section, are finding their answer in Polypenco Nylon Strip.

OUTSTANDING PROPERTIES
Thrust washers, thin gears and other parts fabricated from Polypenco nylon and Nylatron* GS Strip are tough, long-wearing and resilient. They have a low coefficient of friction, are noise dampening and non-scratching, with good chemical resistance and electrical insulating properties.

HIGHEST QUALITY NYLON
Polypenco Nylon Shapes are produced under rigid controls to provide you with materials of uniform toughness, density and dimensional stability.

OTHER STOCK SHAPES
Polypenco Shapes also include rod, tubular bar, tubing, and slab—all available for immediate delivery. Fabrication service is available for your parts—engineered for the best in design, quality and tolerances. Write for latest data.

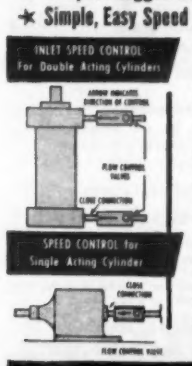
*a molybdenum disulphide filled nylon. Patents applied for.

THE POLYMER CORPORATION OF PENNA.
Reading, Penna.
Export: Polypenco, Inc., Reading, Penna., U.S.A.
Custom fabricating service available on request
Nylon, Teflon†, Q-200.5 (cross-linked polystyrene) and K-51 (chlorinated polyether)
†Du Pont Trademark

POLYPENCO

For more details circle NED-317 M7 on enclosed inquiry slip

★ Accurate, Constant Cylinder Speed Control
★ Compact Rugged Design
★ Simple, Easy Speed Selection ★ For Air, Oil or Water Applications



Pneu-Trol Speed Control Valves, are widely used in hundreds of control applications because they combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to its seat, requiring only a slight differential pressure to fully open or close it.

Needle design permits maximum flow capacity in the controlled direction. Metal to metal needle and ball seats insure long trouble-free service. Simple, practical "O" gland structure eliminates troublesome leaking. Valve bodies machined from hex brass or aluminum for 2000 psi working pressures; steel and stainless steel for 5000 psi. Made in 5 female pipe sizes—⅛" to ¾". ATTRACTIVE PRICES . . . IMMEDIATE DELIVERY.

Write for illustrated circular and prices.

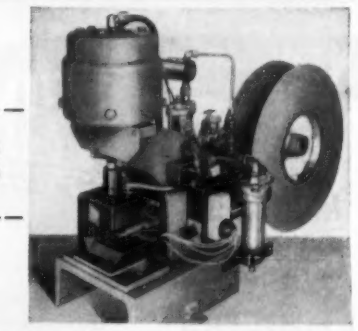
Pneu-Trol DEVICES, INC.
1432 N. KEATING AVENUE • CHICAGO 51, ILL.

For more details circle NED-318 M7 on enclosed inquiry slip

CRIMPS

SOLDERS

SNIPS



15 to 20,000 terminals a day!

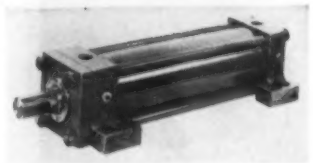
Now you can make thousands of perfect terminal attachments *automatically* with this high speed, low cost P-M Auto-Soldering Machine. Advance features include: new, in-line feed system permitting continuous flow of P-M terminal strip (containing solder) from disposable reels . . . electric solenoid trip on air feed for positive control . . . thermostatically controlled heating element . . . foot treadle control for faster, easier operation.

WRITE FOR COMPLETE DETAILS!

P-M PATTON-MacGUYER COMPANY
16 Virginia Ave., Providence 5, R. I.

For more details circle NED-319 M7 on enclosed inquiry slip

HYDRAULIC CYLINDERS
1½ to 12-in. bore, 2000-psi units



Variety of mountings, standardized for interchangeability, are available in line of squarehead hydraulic power cylinders. Tested to 4500 psi before delivery, units are made for service at 2000 psi, or 3000 psi in nonshock installations with bores from 1½ to 12 in. Double-acting cylinders can have precision adjustment cushions at either or both ends without increasing length. Steel piston rods are ground, polished, and chrome plated, and cylinder barrel of cold drawn seamless steel tubing is honed to 10 micro-inch finish. V-type spring-preloaded rod packing is available in sizes and materials for all types of fluids. Made by **Wellman Engineering Co.**, Anker-Holth Div., Dept. NED, 2723 Connor St., Port Huron, Mich.

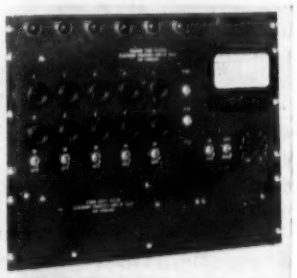
For more details circle NED-321 M7 on enclosed inquiry slip

SAFETY DROP CORD
offers 12-v, 110-w outlet from line

Personnel working under electrically hazardous conditions can safely use this drop cord which provides a 12-v, 110-w outlet from 115-v ac line voltage. It has a built-in transformer with a waterproof sealed housing. Of the 50-ft oil-resistant cord, 20 ft lead to the transformer and 30 ft come out of the secondary. Price is $65.00, or $80.00 with a vaporproof lamp guard. Made by **Sittler Corp.**, 24 N. Ada St., Chicago 7, Ill.

For more details circle NED-322 M7 on enclosed inquiry slip

PROGRAM TIMER
controls several related operations



Sequence and timing of several related operations of a machine or process are independently controlled by the Model PT-157 electronic program timer. Unit shown controls on-off sequence of six different operations. Additional operations can be controlled by adding one switching comparator for each on-and-off operation. Time cycles up to 5 minutes are available. Settings can be varied during the cycle without interrupting other operations. Remote start and emergency stop switches are available. Made by **Electronic Processes Corp. of California**, Dept. NE, 2190 Folsom St., San Francisco 10, Calif.

For more details circle NED-323 M7 on enclosed inquiry slip

GENESEE Low Pressure Pumping Unit . . . . . .

This is a new heavier duty motor-pump combination. Definitely the answer to high-cost hydraulics. It can be used for (1) accurate control of machine motions and pressures; (2) converting existing air equipment to hydraulic; (3) pressure testing devices or wherever linear or rotary motions are required.

Its initial pumping unit cost is approximately half that of conventional high-pressure systems.

Five new models are available from stock, complete with motor, adjustable relief valve, pressure gage, oil level gage and piped return. They handle from 4 to 9 gal. per min.; HP ranges from ⅛ to 1.

GENESEE MACHINE BUILDERS, INC.
1731 HUDSON AVE., ROCHESTER 21, N. Y.

For more details circle NED-324 M7 on enclosed inquiry slip

OUTPERFORMS and Out Values all lift trucks in its class
Regardless of Price!

ENGINEERED YEARS AHEAD
- Complete bearing control throughout
- Synchronized 12-volt heavy duty system
- Feather-controlled stops
- Equipped with automatic charger and heavy duty industrial battery
- Self-aligning dual floor brakes

OPERATES IN 28" AISLES

APPLICATIONS
- Hydraulic loading, unloading, stacking, moving, any type of material . . . in large or small plants.

MORE THAN 40 BIG JOE MODELS
- Range up to 2000 lbs. capacity
- Lifting heights to 130"

NEW 24-PAGE CATALOG
In-Between Handling is our business! Write for our new 24-page catalog.

THROUGHOUT THE WORLD
Export Division: 400 West Madison St., Chicago

BIG JOE
MANUFACTURING CO.
Industrial Rd.
Wisconsin Dells, Wisc.

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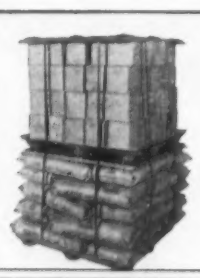
For more details circle NED-325 M7 on enclosed inquiry slip

The ideal shipping container is . . .

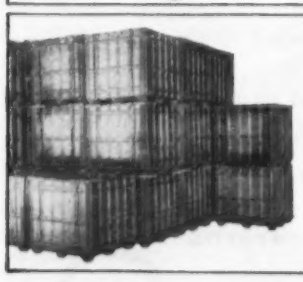
easy to assemble . . .

"One man with a hammer" quickly assembles the Band-Box. Clip fasteners attach easily, securely hold sides and Stack-Lock Corners.



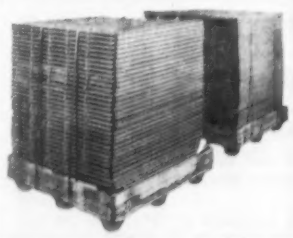
self-palletizing . . .

Every Band-Box bottom is its own pallet. Can be stacked ceiling-high without toppling. Use alone or assembled as a full Band-Box. 4-way entry with hand or power lift-truck.



perfect for storage . . .

The all-steel Band-Box is available with Stack-Lock Corners or full cover for storage protection. It's painted, chemically treated and enameled.



nestable and reusable . . .

Nested, 17 space-saving Band-Boxes take up the same cubic area as one assembled unit. And they can be used over and over again.

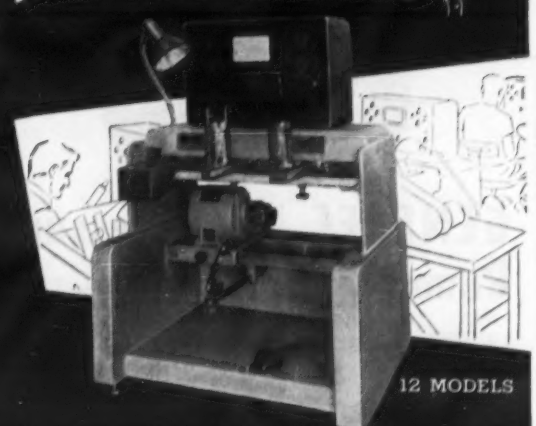
Get all these features in the Ackermann BAND-BOX
PATENT APPLIED FOR

Look at these features in terms of savings. See how *economical* the Ackermann Band-Box is. Your shipping department can save money up and down the line. Get full cost-cutting details on the Band-Box — perfect answer to inter-plant and intra-plant shipping and storage problems. Write, wire or call Ackermann Manufacturing Company (Subsidiary of Wheeling Steel Corporation), Wheeling, West Virginia.

IT'S WHEELING STEEL

For more details circle NED-320 M7 on enclosed inquiry slip

Best PRODUCTION STANDARDS with Better BALANCERS BY BEKO



12 MODELS

BEKO dynamic and static balancers are proving their superiority in use every day and you can better your existing production standards at a surprisingly low initial cost. These BEKO balancers are geared for high production on close tolerance work. Their simplicity of operation with optimum worker convenience allows thoroughly efficient operation by unskilled workers. Accurate calibration directly in terms of unbalanced correction either to remove or add weight.

Write for FREE catalog

BALANCE ENGINEERING CO. • CHICAGO | Sales Division: MACDELL CORP. 842 W. LAKE ST. • DEPT. NED. CHICAGO 7, ILL.

For more details circle NED-326 M7 on enclosed inquiry slip

save valuable floor space... reduce expensive man hours... cut maintenance cost with the

COLSON HYDRAULIC PALLET TRUCKS

The Colson Leverlifts are perfect for crowded floor areas and rail cars where the use of power equipment is prevented. They are an ideal supplement for short hauls and "spotting" loads. Choose from a complete line of single or double faced pallets or skid lift trucks.

SAVE MONEY! Easy opening "jack knife" head construction allows quick, easy maintenance. Sealed ball bearings in all wheels. Lubricated for life.

SAVE WORK! Every stroke a power stroke.—Toggle Booster Wheels avoid "skating" empty pallets. 10" wheels move easier—steer better.

SAVE SPACE! Only 16" longer than fork length when raised (18½" lowered) 4000 and 6000 lb. capacities permit higher pallet loading.

Use Colson's Material Handling Consultants for every handling problem

The Colson Corporation
General Offices, Elyria, Ohio
Factories in Elyria, Boston, Toronto

For more details circle NED-327 M7 on enclosed inquiry slip

BRIDGEPORT BRASS COMPANY

Welds Aluminum Tubing at speeds up to

120 fpm

with an

Allis-Chalmers Induction Heater

Aluminum has an abrupt melting point and a tendency to buckle. That's why conventional arc welding just wouldn't work. The Allis-Chalmers induction heater turned the trick by *confining* heat to a thin surface layer at the contacting edges of the formed tubing. Result — production at the amazing rate of 120 feet per minute.

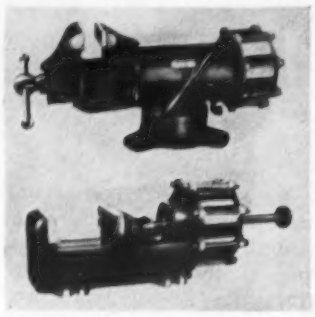
If you braze, solder, harden, anneal or heat for forging or melting, it will pay you to get all the facts on Allis-Chalmers induction heaters. See your nearby Allis-Chalmers representative or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wisconsin.

Heart of Bridgeport's integrated mill is a 50-kw Allis-Chalmers induction heater. Coil is interchangeable to accommodate various tube sizes.

ALLIS-CHALMERS A-C A-5455

For more details circle NED-328 M7 on enclosed inquiry slip

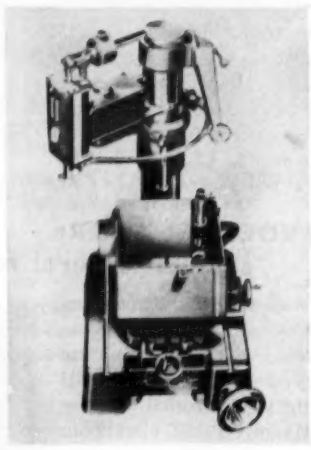
TOOLMAKER & MACHINE VISES
air and manually operated models



Universal double swivel built into line of toolmaker's vises enables workpiece to be adjusted to any position without removal from the jaws. Air-operated Model J and manual Model F vises have 4-in. jaw width and 6-in. jaw opening. Air - operated model (top) has hardened steel jaws and brass jaw caps. Manual model can be converted to air operation. Both Model 4D air-operated (bottom) and Model 3D manual drill press vises have 5-in. jaw width and opening and 2¼-in. jaw depth. Both have serrated and smooth (hardened) replaceable jaws. Manual model can also be converted to power operation. Both air-operated vises have a 6-in. air cylinder and control kit consisting of foot treadle, quick exhaust valve, and two lengths of coupled hose. Made by **Yost Mfg. Co.**, Dept. N, 124 Grant St., Cambridge Springs, Pa.

For more details circle NED-329 M7 on enclosed inquiry slip

METAL FORMING MACHINE
electric spark cuts hardened metal to precise, intricate outlines



Precisely dimensioned, intricate outlines and contours can be cut through or sunk into hardened metal by the Mark III Sparcatron electrical discharge machine. The work blank and an unhardened electrode, shaped to the desired outline, are submerged in a dielectric bath in a tank on the machine table.

An ultra-high frequency electrical discharge reproduces the electrode outline and contours in the work piece. The minute gap between check-held electrode and work piece is maintained continuously by a servo control. A pump circulates the dielectric bath between the table tank and a tank in the machine base to carry away particles of eroded metal. Maximum head stroke is 3 in. for each setting.

Machine will take a 500-lb work piece in the 20 x 13-in. tank. Control can be manual or automatic, and one to four machines can be operated from main control power unit. Made by **Easco Products**, Box 587, Ypsilanti, Mich.

For more details circle NED-330 M7 on enclosed inquiry slip

For better products

LEAKPROOF...CUSHIONED TUFF-TITE FASTENERS

Undercut of Tuff-Tite fastener head . . .

. . . confines and controls flow of conical neoprene washer

. . . so washer seals the hole and cushions the fastener head!

Now you can • prevent leaks at fastener holes • protect fine finishes from fastener damage • stop vibration noises and squeaks

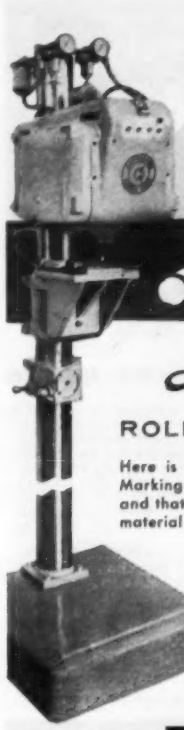
Leakproof, non-marring, shock and squeak absorbing! If you need these fastening advantages, you need National Tuff-Tite fasteners.

Standard National Tuff-Tite fasteners are available in hexagonal, pan, round and truss head styles for screw diameters No. 6 to ⅜" inclusive . . . maximum over-all length 1½". Standard fastener types are wood screws, self-tapping screws, thread cutting screws, machine screws and stove bolts. Tuff-Tite fasteners are pre-assembled with neoprene washers.

Washers are molded of neoprene which has a durometer hardness of 85 to 95. *Write for the Tuff-Tite fastener folder describing this line in detail.*

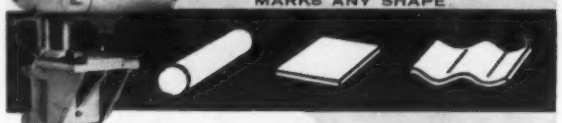
THE NATIONAL SCREW & MFG. COMPANY
CLEVELAND 4, OHIO
Pacific Coast: National Screw & Mfg. Co. of Cal.
3423 South Garfield Ave., Los Angeles 22, Cal.

For more details circle NED-331 M7 on enclosed inquiry slip



Now! MARK FLAT, ROUND, CONTOURED SURFACES at HIGH SPEEDS!

MARKS ANY SHAPE



WITH Automark (MODEL HRMA) ROLL MARKING MACHINE

Here is speed, versatility and adaptability in a Marking Machine that operates by air pressure and that is controlled electrically. Marks any shape material . . . round, flat or contoured.

CUTS PRODUCTION COSTS... GREATLY INCREASES OUTPUT

The Automark operates at speeds up to 6,000 or more 1-inch strokes per hour, or 1,400 strokes per hour on stroke of ram and die slide combination. Think of all the saving in time and money with Automarks in your shop!

AUTOMATIC FEEDS and FIXTURES MAY BE SUPPLIED...

SEND FOR BULLETIN ▶ DEFIANCE MACHINE & TOOL CO. 1922 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

For more details circle NED-332 M7 on enclosed inquiry slip

NEW...from WINSMITH SPEED REDUCERS

SHAFT MOUNTED WORM GEAR SPEED REDUCERS

SERIES "ST" Torque Arm Type ▶

◀ SERIES "SF" Flange Mounted Type

● Now you can specify Winsmith performance, dependability and economy for applications requiring a shaft mounted speed reducer.

The new Winsmith "ST" and "SF" series require less space than conventional models because they eliminate the need for couplings and bed plates. Both series are currently available in three sizes . . . in ratios from 7½:1 to 77:1 . . . horsepower from .63 to 8.82 . . .maximum output torque range from 816 to 7678 in. lbs.

These new shaft mounted models also embody all the advanced engineering and construction features that make Winsmith Speed Reducers first choice for any application from 1/100 to 85 h.p.

WRITE . . . FOR NEW CATALOG

For all the facts and complete technical data on Winsmith Shaft Mounted, Worm Gear Speed Reducers, write today — on your company letterhead, please — for Catalog No. SM-57.

WINSMITH, INC.
119 Eaton Street, Springville, (Erie County), N. Y.

For more details circle NED-333 M7 on enclosed inquiry slip

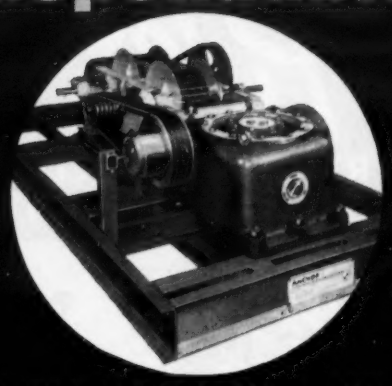
Homelite Carryable Pumps Get Rid of Water Fast

Water causes delays. Man hour losses mount. Best cure for this headache is a Homelite Carryable Pump. Does its job fast. Pumps up to 15,000 gals. per hour. Guaranteed 28 foot suction lift. Fast starting Homelite gasoline engine. Lightweight for easy carrying. Fast, automatic, dependable, rugged. For top pumping performance you can't beat a Homelite. Write or call your nearest Homelite representative for a free demonstration.

HOMELITE
A DIVISION OF TEXTRON INC.
8512 RIVERDALE AVE., PORT CHESTER, NEW YORK

For more details circle NED-334 M7 on enclosed inquiry slip

dependable

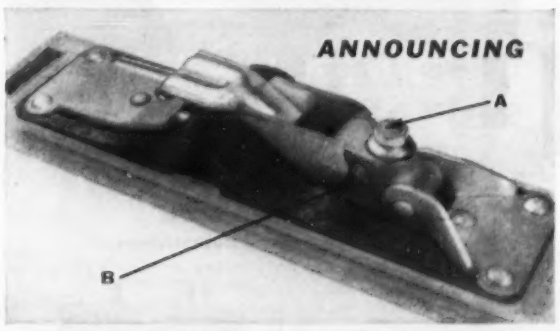


ANCHOR CONVEYOR DRIVES

ANCHOR Overhead Conveyor Drive Units are available in all sizes for constant or variable speeds. ANCHOR Vertical Shaft Reducers and Overload Cut-Outs team up to create sturdy, efficient power units with minimum maintenance requirements. ANCHOR also manufactures Conveyor Trolleys, Turns, and completely engineered and installed systems.

ANCHOR STEEL & CONVEYOR CO.
6906 KINGSLEY AVE. DEARBORN, MICHIGAN

For more details circle NED-335 M7 on enclosed inquiry slip



NEW GEAR LOCK CLAMP
combines strength, adjustability

Bassick's revolutionary new Gear Lock Clamp provides the quickest, most economical way yet of sealing heavy duty containers against air and moisture.

When locking nut A is rotated, its worm gear mechanism turns gear B and closes the clamp. The ultimate closing strength is up to 2000 lbs. Infinitely adjustable, the clamp needs no precision mounting to operate. It withstands continual shock and vibration. Clamp shown is GL-101 designed specifically for use on fibreglas or other plastic containers. Other gear-lock clamps available for other applications and materials. THE BASSICK COMPANY, Bridgeport 5, Conn. *In Canada:* Belleville, Ont. 7.38

Write for Catalog No. CF-57

Bassick SYMBOL OF EXCELLENCE

For more details circle NED-336 M7 on enclosed inquiry slip

NAIL PULLER
safety feature stops hand injuries

Guide handle extension of the claw hook on the No. 515 nail puller is held by the operator's hand in positioning the claws over the nail head. This eliminates danger of injury to the hand by the impact handle during driving. The 5-lb tool is 18 in. long when closed. Claws accommodate the heads of up to 16-penny common nails. Made by **Greenlee Tool Co.**, 2136 12th St., Rockford, Ill.

For more details circle NED-337 M7 on enclosed inquiry slip

AIR IMPACT WRENCH
in 130 and 185 lb-ft models

With 90 psi air pressure, Model 315 Sioux air impact wrench delivers 130 lb-ft torque in 10 seconds. Model 317 delivers 185 lb-ft in 10 seconds. Power regulator allows running a series of nuts down to same degree of tightness. An angle attachment is available for reaching the ratchet wrench spots. Molded rubber ring protects nose of wrench. Model 315 has ½ in. drive and ⅝ in. bolt capacity, whereas Model 317 has ⅝-in. drive with 11/16-in. bolt capacity. Made by **Albertson & Co.**, Dept. NED, Sioux City, Iowa.

For more details circle NED-338 M7 on enclosed inquiry slip

PRESS ROLL FEED
0 to 3 and 0 to 6-in. strokes

Clutch mechanism based upon a friction spring on a shaft is incorporated in the improved automatic friction roll feed for use with Benchmaster and other presses. Torque applied in direction of spring winding tightens it on the shaft, transmitting rotational motion. Reversed direction loosens the spring so that it slips on the shaft. Two springs wound in opposite directions are furnished to provide choice of right or left hand rotation. Feed is offered in 3, 5, 7, and 9-in. roll widths and 0 to 3-in. and 0 to 6-in. cutoff strokes. Spacing and tension between rolls is adjustable for material of different thicknesses. Roll lifters relieve roll tension to free stock for alignment with die stops. Made by **Benchmaster Mfg. Co.**, Dept. NED-12, 1835 W. Rosecrans Ave., Gardena, Calif.

For more details circle NED-339 M7 on enclosed inquiry slip

HANDY TO USE... IDEAL FOR SERVICE KITS

INDUSTRY'S LEADING PIPE THREAD COMPOUND

Get *Plastic Lead Seal in the handy-to-use 4-oz. plastic applicator tube. It's an ideal size for tool and service kits. Tube won't damage when dropped or hit by blunt tools...never cracks at seams.

Use PLS for water, steam, gas, chemical, refrigerant or petroleum services ...pressures to 6000 psi., temperatures to 500°F. Seals permanently. Never hardens. Underwriters' approved.

Request Sample Tube. *Better yet, send order for special 12-tube package. Act now.*

John Crane CRANE PACKING COMPANY
6411 OAKTON STREET, MORTON GROVE, ILL. (Chicago Suburb)

For more details circle NED-340 M7 on enclosed inquiry slip

work in complete safety
with McGILL® grounded portable lamp guards

Concern for the safety of your workers can be completely satisfied with McGill grounded portables. Their exclusive grounding design provides positive protection against shock not available when ordinary guards wear out, contact exposed wires or are shorted internally. Each model built for three wire cord to accommodate a three blade plug and a built in extension outlet for 2 parallel blades and a 3rd U shaped blade for ground. Especially made for rugged industrial service with molded phenolic handles, extra heavy wire cages, the famous LEVOLIER switch and molded in outlet. Switch and outlet optional.

Available from Electrical Wholesalers

No. 5025-SRG
- CONFORM TO NEC
- GROUNDING ADOPTED AS STANDARD BY AMERICAN STANDARD ASSOCIATION
- UNDERWRITER'S LABORATORIES INSPECTED

WRITE FOR YOUR FREE McGILL CATALOG No. 21

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

For more details circle NED-341 M7 on enclosed inquiry slip

ANOTHER *Safety-Tested* PENETONE PRODUCT

Concentrated Steam Cleaner Detergent

LIQUID STEAM-KLEEN

Activated liquid formula
WON'T CLOG or CORRODE steam cleaners
ever!

And More Strength Per Measure Delivers Superior Cleaning Job Always!

Throw away old-fashioned caustic powders with their insoluble fillers that clog, corrode and otherwise damage expensive equipment! Put liquid Steam-Kleen to work and immediately safeguard equipment with that extra-powerful detergent action!

Steam-Kleen's proven-in-performance liquid formula contains completely water-soluble ingredients plus special water-softening agents. These can't possibly jam lines or nozzles under any circumstances!

And because Steam-Kleen is concentrated, it unleashes more cleaning power per given amount than most other liquid detergents in its class!

Send for Bulletin S-K and discover the money-saving versatility of Steam-Kleen for all heavy-duty steam cleaning, hot tank degreasing, wipe cleaning and a multitude of day-in, day-out jobs.

AND IT'S WORKER-SAFE, TOO!

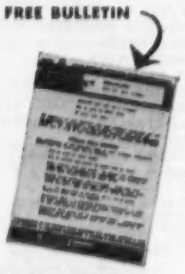
Best of all, liquid Steam-Kleen is absolutely safe for workers. It's non-flammable, non-caustic and gives off no choking odors!

Get complete specification and product data by asking for Bulletin S-K.

EXTRA-POWERFUL DETERGENT ACTION

Grease and other tough deposits disintegrate due to powerful Steam-Kleen detergent action, leaving equipment clean as new!

WRITE FOR FREE BULLETIN

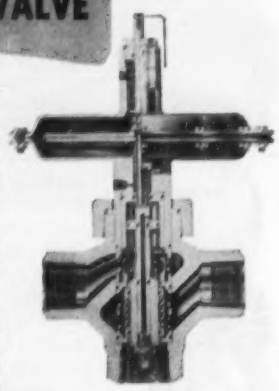


THE PENETONE CO.
Dept. E9-12 74 Hudson Avenue, Tenafly, New Jersey

Liquid Detergents and Degreasers • Industrial Strippers • Electrical Equipment Cleaners • Powdered Cleaners and Degreasers • Floor Finishes and Waxes • Automotive Products • Corrosion Inhibitors

For more details circle NED-342 M7 on enclosed inquiry slip

THREE-WAY THREE-POSITION CONTROL VALVE



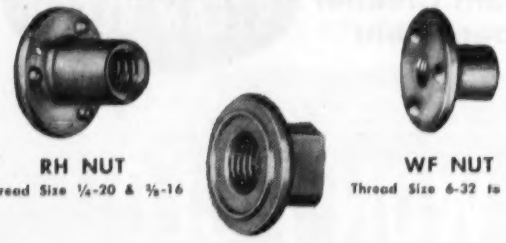
Here's the solution to many of your flow control problems. Designed especially for service as a manifold valve in automatic systems, the GOT Type "CPC" Valve is extremely simple in design and construction, with all parts accessible for cleaning, repair or replacement without removing the valve body from the line. The inner valve is pressure-balanced for positive operation, and gives guaranteed bubble-tight closure against gas or liquids. The GOT-developed "huddling chamber" design protects valve seat and disk against cutting, and permits re-sizing without seat and disk replacement. For complete information, write for Catalog No. 256 MVC.

Garrett Oil Tools, Inc.
P. O. BOX 2427 • LONGVIEW, TEXAS
DIVISION OF U. S. INDUSTRIES, INC

For more details circle NED-343 M7 on enclosed inquiry slip

OHIO RESISTANCE WELDING FASTENERS

THE PRIMARY FASTENERS IN FASTENER ASSEMBLIES



RH NUT
Thread Size ¼-20 & ⅜-16

WF NUT
Thread Size 6-32 to ⅜-16

SF NUT
Thread Size 5/16-18 to ½-13

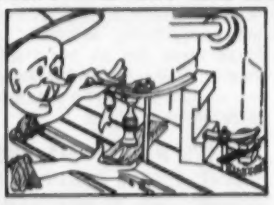
OHIO flanged weld nuts provide extra-long thread engagement and are ideal for assemblies requiring strong primary fasteners. They can also serve as spacers or bearing surfaces where required

OVER 50 YEARS OF BETTER FASTENING

Samples and information available upon request

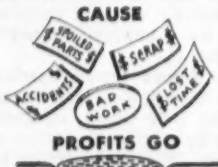
THE OHIO NUT & BOLT CO.
14 First Avenue • Berea, Ohio

For more details circle NED-344 M7 on enclosed inquiry slip



MAKESHIFT SETUPS

CAUSE

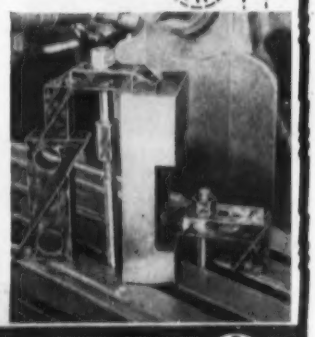


PROFITS GO

BE WISE Save with NORTHWESTERN

- T-NUT & STUD SETS— 12 SIZES
- STEP BLOCK & CLAMP SETS— 7 SIZES

- QUARTER TURN SCREWS
- SHOULDER SCREWS
- JIG FEET (3 TYPES)
- SPHERICAL WASHERS
- LATCH BOLTS
- FLANGED NUTS
- CUT THREAD STUDS
- TEE NUTS
- COUPLING NUTS
- ADJUSTABLE STEP BLOCKS
- FIXTURE KEYS
- KNURLED HEAD SCREWS
- TOGGLE SHOE CLAMPS & V-PADS
- STRAP CLAMPS (PLAIN & STEP TYPE)
- CAST IRON & ALUMINUM HAND KNOBS



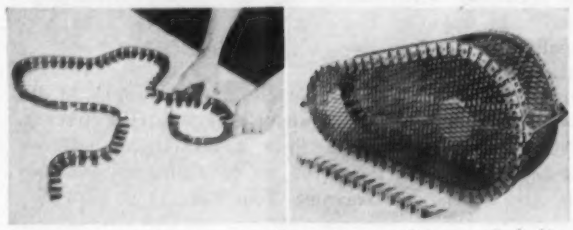
Send for free tracing template and catalog

Northwestern
127 HOLLIER AVE., DAYTON 3, OHIO

For more details circle NED-345 M7 on enclosed inquiry slip

FORMATIVE STEEL STRAPPING for fabricating machinery guards

Used primarily in maintenance departments, Acroflex formative steel strapping is an exceptionally versatile product for fabricating guards at danger points on



moving machinery, punch presses, dies, and belts. Strapping consists of a continuous series of angular connected links in 8-ft lengths. Each link is pierced with holes for quick bolting to panels, wire mesh, or expanded metal. Strapping can be formed down to 3-in. diameter circles. Angles for long straight lengths, hinges to allow opening and closing of guards, and tapped nuts for fastening comprise accessory pieces. Photos show strapping flexibility and typical guard fabricated with expanded metal. Made by **Acro Metal Stamping Co.**, Dept. NED, 332 E. Reservoir Ave., Milwaukee 12, Wis.

For more details circle NED-346 M7 on enclosed inquiry slip

HIDDEN CONDUCTOR LOCATOR senses magnetic field set up in conductor up to 40 ft away

Underground or otherwise concealed metal pipe, cables, or other conductors can be located and traced with the Rube-G locating device. It can also be used to locate the point where insulated conductors have short-circuited or grounded. Equipment operates by imposing a low frequency electrical impulse into the conductor itself, creating a magnetic field around the conductor. This circular field is then picked up by an exploring or search coil, is amplified, and is registered audibly in head phones.

Model A connects to 115 v ac, whereas model TM, designed for truck mounting, connects to 12/18 v dc. Both carry batteries for use where neither voltage is available. Equipment requires a return circuit which can be a wire laid over the ground, the ground network of the plant or the conduit in question, or grounding system of a public utility distribution. Nonmetallic conduit, sewers, or drains can be followed if a metallic fish tape or sewer spiral can be shoved through first. Made by **Western Carolina Controls Co.**, Dept. NED, 78 Fairway Dr., Beverly Hills, Asheville, N. C.

For more details circle NED-347 M7 on enclosed inquiry slip

NOW YOU CAN HAVE DIEBOLD steel storage files at the cost of cardboard... OR LESS!

GET THE FACTS!
SEND FOR CATALOG 0300-009 TODAY!

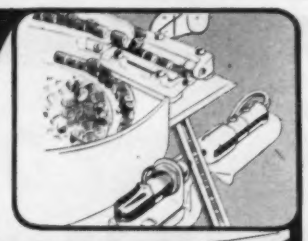
Diebold INCORPORATED
1008 Mulberry Rd., S. E.
Canton 2, Ohio

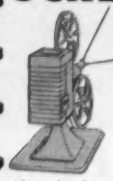
Diebold Files eliminate space-wasting shelving . . . increase storage room capacity up to 100% . . . lock into rigid batteries . . . last a life-time. For reducing costs and improving record filing, send for complete information about Safe-T-Stak Steel Files . . . today.

N-337-DI

For more details circle NED-348 M7 on enclosed inquiry slip

Preview! SET SCREW AUTOMATION





. . . See How Setko System* Saves 80 to 90% Operational Time!

A new Setko movie on hopper feeding of headless set screws "demonstrates" an exciting approach to assembly automation. This 12 minute, 16-mm color film previews the opportunities for automation in inserting and driving headless set screws as small as #2 (.086" x ⅛").

Users of this revolutionary new system report cuts in operational time of 80% to 90% . . . elimination of floor waste . . . drastic reduction in floor area.

Setko innovations include application of air feed, micro-switches and photo-electric cells. The Setko system is adaptable to individual requirements including vertical or horizontal feeding, semi-automatic or full automatic work feeding, installation on rotary indexing work tables, drill presses, vertical tapping machines, etc.

FREE DEMONSTRATION!

This new film is available for a "demonstration" in your plant or office. There's no obligation involved. For information about the film, or for a *free* copy of Catalog 21 which describes the Setko System, write direct.

* Pat. Pend.

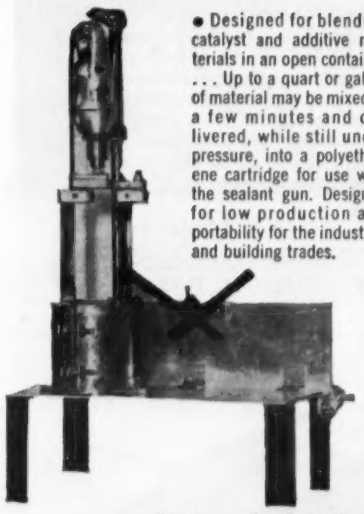
Set Screw & Mfg. Co.
130 Main Street, Bartlett, Illinois (Chicago Suburb)

We Specialize in Solving Puzzling Set Screw Problems

For more details circle NED-349 M7 on enclosed inquiry slip

Pyles PORTABLE MIXING AND FILLING UNITS

Pyles-SEMCO SEALANT GUN
CAPACITY 2½ oz., 6 oz., 12 oz.



- Designed for blending catalyst and additive materials in an open container . . . Up to a quart or gallon of material may be mixed in a few minutes and delivered, while still under pressure, into a polyethylene cartridge for use with the sealant gun. Designed for low production and portability for the industrial and building trades.

AVAILABLE IN ONE QUART AND ONE GALLON SIZES

Automatic Continuous BLENDOMETER
metering and mixing polyurethenes; epoxies, polyesters

Multi-Purpose Pumps
•
Metering and Measuring Devices
•
Hydraulic Hose Machines & Couplings
•
Conveyor Lubricators
•
"Tip-Seal" Flow Guns & Nozzles

- The Pyles Blendometer is a production unit suitable for continuous measuring and mixing of two and three part chemical systems. Chemicals, which will gravity flow, can be metered to a mixing head through variable control metering units which can be adjusted with very high accuracy. Unit measures 36" x 21" x 29½" high. Weight 500 lbs.

PYLES INDUSTRIES, INC.
8926 SECOND AVENUE · DETROIT 2, MICHIGAN

For more details circle NED-350 M7 on enclosed inquiry slip

Mecco SAFETY UTILITY MARKING OUTFIT

A product of the Marking Device Industry

M. E. CUNNINGHAM CO.

1055 CHATEAU STREET, PITTSBURGH 33, PA.

For more details circle NED-351 M7 on enclosed inquiry slip

Send for this NEW CRANE Plastic Piping Circular

This new Crane circular gives complete specifications . . . service recommendations . . . sizes . . . weights . . . dimensions . . . pressure drop chart . . . pressure-temperature ratings . . . recommendations for pumping depths for flexible pipe . . . installation instructions . . . recommendations of fittings . . . and other helpful facts. To get your copy of Circular AD-2205, ask your Crane Representative, or write to address below.

CRANE PLASTIC PIPING

VALVES • FITTINGS • PIPE • PLUMBING • KITCHENS
HEATING • AIR CONDITIONING

Crane Co., General Offices: Chicago 5, Ill.
Branches and Wholesalers Serving All Areas

For more details circle NED-352 M7 on enclosed inquiry slip

NEW silver brazing REFERENCE BOOK

Contains:
• Information on NO-TANGLE — NOTCH COIL RINGS.
• Preform Selection . . . Simple Ordering Information.
• Charts for Quick Accurate Alloy Calculation.
• Types of Flux and Application.
• Edgewound, Blanked Washers, Preforms, Silver Brazing Alloys and Solders Available.

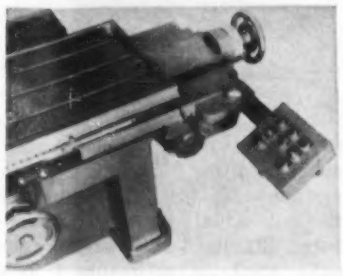
Send for FREE Copy Today!

LUCAS MILHAUPT Engineering COMPANY

5070-A So. Lake Drive, Cudahy, Wis.

For more details circle NED-353 M7 on enclosed inquiry slip

LAYOUT DRILLING MACHINE produces complex hole pattern workpieces without jigs, fixtures

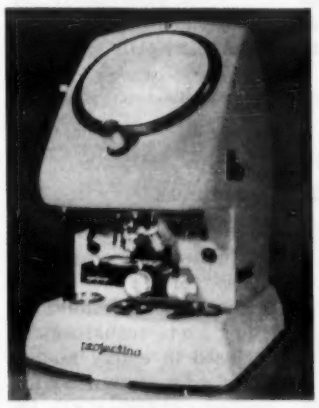


Jigless and fixtureless manufacture of medium and small production parts is possible with the layout drilling machine, an improved model of which has an extended range and ease of locating, drilling, and boring. By mounting a job rod on the machine table for controlling longitudinal positioning, and another job rod on the carriage for transverse positioning control, any workpiece can be produced, regardless of the complexity of hole pattern. An individual set of rods is provided for each production piece to serve as permanent masters for duplicating the job at any time.

Machine is equipped with micrometer dials and scales, and three methods of table and carriage movement are available. When commercial tolerances are acceptable, job rods may be made on the machine, but when ultra-precision tolerances are required, a jig borer is preferred. Blank or finished job rods can be furnished. Made by **Cleereman Machine Tool Corp.**, 555 W. Washington Blvd., Chicago 6, Ill.

For more details circle NED-354 M7 on enclosed inquiry slip

MICROSCOPE-PROJECTOR also serves as comparator, camera



Rapid interchange of optics and photographic equipment adapts the Swiss-made Projectina multipurpose testing instrument for use as a microscope, projector, comparator, and camera. Any image is projected on the screen in a 7 to 2000 X magnification range. It can be photo recorded with either a Graflok or Polaroid Land back in black and white or color. Pictures can be seen on the 7-in. ground glass screen and through the eye piece at a constant scale without refocusing. Light intensity is variable. The stage will accommodate comparatively thick specimens, plus fixtures and accessories. Standard screens are offered with eight variations from plain to vernier or angular reference lines. Available from **Alfred Hofmann & Co.**, Dept. NED, 629 59th St., West New York, N. J.

For more details circle NED-355 M7 on enclosed inquiry slip

Specify NAYLOR PIPE and PIPE FITTINGS

TO SPEED THE JOB AND CUT COSTS

WATER LINES
AIR LINES
GAS LINES
COMPRESSED AIR LINES
VENTILATING LINES
PROCESS LINES
PNEUMATIC CONVEYORS
SLUDGE LINES
VACUUM LINES
DRAINAGE LINES

Here is a lightweight pipe with extra strength and safety to handle jobs normally requiring heavier-wall pipe. Its exclusive spiral-lock construction acts as a continuous expansion joint—absorbs shock loads, stresses and strains. Sizes range from 4" to 30" in diameter. All types of fittings, fabrications and connections including one-piece Naylor Wedge-lock couplings to speed installation and cut costs. Available in steel, alloys and stainless steel.

Write for Bulletins No. 507 and No. 525

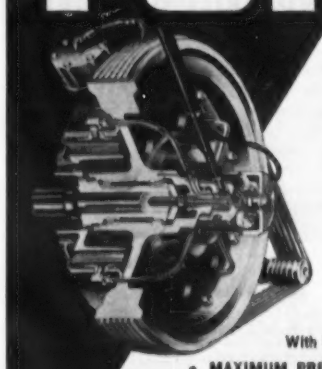
NAYLOR

Naylor Pipe Company
1247 East 92nd Street
Chicago 19, Illinois

Eastern U. S. and Foreign Sales Office
60 East 42nd St.,
New York 17, N. Y.

For more details circle NED-356 M7 on enclosed inquiry slip

FSPA*



*FAWICK STANDARDIZED PRESS APPLICATIONS convert presses to modern pneumatic clutch operation. Complete package contains Fawick CB Airflex Clutch, CS Brake, Timing Rotorseal, Controls and flywheel.

With FSPA you get:
• MAXIMUM PRESS SPEED
• MAXIMUM PROTECTION TO PRESS, DIES AND OPERATOR
• ADAPTABILITY TO ANY TYPE OPERATION
• SIMPLIFIED INSTALLATION

Write for more information:

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
4919 CLINTON RD. • CLEVELAND 11, OHIO
In Canada, Fawick Canada, LTD., Toronto

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

For more details circle NED-357 M7 on enclosed inquiry slip

an oil, water, dust-tight CONTROL SWITCH made by machine tool builders to machine tool specifications

THE NAMCO GOLD N RING SEALTIGHT

• Heavy duty silver alloy contact points provide maximum electrical capacity and long life.
• Heavy duty terminal screws have 5/8" thread contact to prevent stripping during installation and permanently secure wires for continuous, trouble-free service.
• Single or double-pole contact block assemblies — can be used interchangeably with several types of GOLD-N-RING push button and selector operator heads.
• Rated for 600 volts—AC or DC. Meets all Joint Industry Committee and National Machine Tool Builder's Association requirements.
• Protected against oil and water seepage in operator head by Sealtight oil-resistant rubber diaphragm.
• Easily replaces existing switches.

For specifications send for Catalog ECS-56

Electrical Manufacturing Division

National Acme

The National Acme Company • 182 E. 131 St., Cleveland 8, Ohio

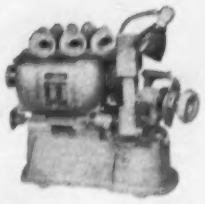
For more details circle NED-358 M7 on enclosed inquiry slip

STOP WASTING DRILLS!

NEW LIFE FOR OLD DRILLS WITH BLACK DIAMOND DRILL GRINDER!

FOR DRILLS UP TO ¾"...

The BLACK DIAMOND Drill Grinder restores **an old** drill to like-new precision sharpness . . . in 10 seconds! Any inexperienced man (or woman!) is an expert grinder with this unit. Both lips ground at once . . . web-thinning equally simple! Pays for itself many times over!



FOR DRILLS UP TO 2½"...

The WORCESTER Drill Grinder (now manufactured by Black Diamond) sharpens 2, 3, or 4-lip drills, flat, flat twisted or chucking, up to 2½". Clearances are easily and instantly changeable, feeding is controlled by micrometer adjustment

FREE BULLETIN

Get all the facts! 4 page illustrated bulletin gives complete story. Write Today!

BLACK DIAMOND

SAW & MACHINE WORKS 72 NORTH AVE. NATICK, MASS.

▲ For more details circle NED-359 M7 on enclosed inquiry slip ▲

New **ARMSTRONG** *Armide* CARBIDE INSERT TOOL HOLDERS

STYLE TR
Holds Triangular (6-edge) "Throw Away" Inserts

STYLE SR
Holds square (8 edge) Throw Away Inserts

The advantages of Carbide Cutters with the economy of Multiedged "throw away" ARMIDE inserts.

New ARMSTRONG Armide Carbide Insert Tool Holders hold multiedged, throw away Armide inserts. They end tool grinding and reduce down time. After an edge dulls, a slight turn of the clamping screw permits rapid indexing of the insert to a new cutting edge. Triangular inserts have 6 cutting edges; square inserts have 8 edges. They are available in three grades — Armide 350, 370 or 883.

ARMSTRONG Armide Carbide Insert Tool Holders are furnished either "Right Hand" or "Left Hand" in the two styles illustrated, each in 3 sizes.

Write for Bulletin CIT

Buy ARMSTRONG TOOLS from your Industrial Distributor

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5245 W. ARMSTRONG AVE. • CHICAGO 30, ILL.

▲ For more details circle NED-360 M7 on enclosed inquiry slip ▲

AMES

...the preferred Dial Indicators...

have forged cases, backs and wheel supports for maximum stability

The extreme care put into the design and material selection of component parts typifies the Ames approach to manufacturing a superlative product. It's just one of the reasons why so many quality control engineers specify Ames Dial Indicators as "preferred" Write today for complete information.

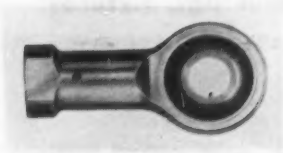
Representatives in principal cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.

MANUFACTURERS OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

▲ For more details circle NED-361 M7 on enclosed inquiry slip ▲

ROD END BEARINGS for rotating or oscillating linkages



Self - lubricating sintered bronze or iron balls and full spherical hardened steel race which is ground to match ball curvature are incorporated in Alinabal spherical rod end bearings. They are suited for linkages with rotating or oscillating motion. Load is applied directly to the center of the ball and is distributed over the full race curvature. Standard outer member is cast aluminum alloy, with steel or malleable iron optional. Male and female type are available in bore sizes from ¼ to 1 in. Made by **Carter Engineering Co.**, 22 Oak St., Ferrysburg, Mich.

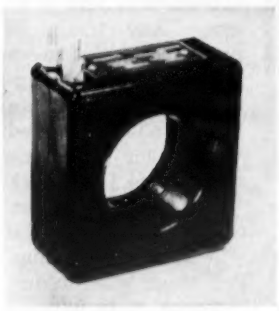
▲ For more details circle NED-362 M7 on enclosed inquiry slip ▲

MACHINE TOOL SWITCH controls four separate circuits

As many as four separate circuits for pilot or line duty can be controlled by this precision limit switch for machine tool applications. Actuation is adjustable in a 360-degree sweep on two different planes. Double action model is used for controlling switch contacts when actuator is moved to either side of center, or the "at rest" position. Switch is rated 20 amp at 125-250 v ac, and 250 v ac pilot duty. It meets all NEMA and JIC requirements. Made by **Robertshaw-Fulton Controls Co.**, Acro Div., Columbus 16, Ohio.

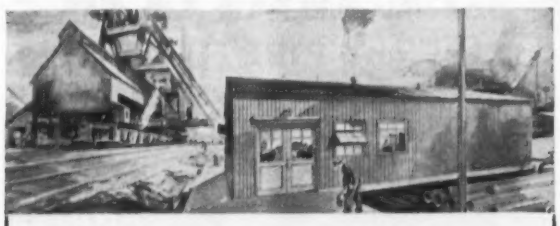
▲ For more details circle NED-363 M7 on enclosed inquiry slip ▲

METER TRANSFORMERS for indoor or outdoor uses



Industrial ammeters and wattmeters are applications for Type CGM molded indoor or outdoor current transformers enclosed in epoxy resins. They are designed for limited - space use in switchboards or cabinets. Ratings from 100 to 800 amp primary, 5 amp secondary, 25/400 cycles are available. Impulse level is 10 kv, and insulation class is 600 v. Cable carrying the load current passes through the opening in the transformer and constitutes the primary winding. Made by **Standard Transformer Co.**, 142 Dana St. N. E., Warren, Ohio.

▲ For more details circle NED-364 M7 on enclosed inquiry slip ▲



New Truscon Steel "Budget Buildings" Offer Top Utility at Low, Low Cost

Here's the latest design by the pioneer of prefabricated steel buildings. Now available from "off-the-shelf" stocks of pre-engineered materials. Shipped to your site as a package—all windows, doors, roofing, siding, hardware, included. Engineered for fast on-site erection. Widths 32 to 48 feet (in 4'0" increments)...heights 12 and 14 feet... lengths as long as you want them. Truscon "Budget Buildings" are fire-resistant, movable, styled for community acceptance. Write for latest bulletin.

TRUSCON STEEL DIVISION
REPUBLIC STEEL
1094 Albert Street, Youngstown 1, Ohio

TRUSCON MARK OF MERIT PRODUCTS

C-4117-AR

▲ For more details circle NED-365 M7 on enclosed inquiry slip ▲

Super Sharp

BECAUSE IT'S *Super Honed!*

MEYCO – *the finest money can buy!*

Each carbide tip has an EXTRA, fine-grit, diamond honed, lapped edge for razor-keen sharpness, for smoo-oo-th cuts, for long, long life . . . fine steel blades are engineered for carbide tipping; carbide tips and blade go together like ham and eggs. This EXTRA quality is reflected in YOUR results! Many years of experience with carbide gives MEYCO the know-how that is so valuable to you. Practically any sized blade, any number of teeth, standard or specials . . . your inquiry is invited. Write for Catalog No. 29.

EST. 1888

W. F. MEYERS CO., INC., BEDFORD, INDIANA

▲ For more details circle NED-366 M7 on enclosed inquiry slip ▲

SILVER PLATING

"ON THE JOB" WITH POWDER

Cool-Amp Silver Plating Powder deposits a genuine coat of silver that will not peel off, and will provide lasting protection against oxidation. It has been used extensively and is accepted as equal to electroplating for bolted and stationary contacts.

Reduces Maintenance Saves Electricity

Cool-Amp minimizes overheating and provides cool maximum conductivity for your copper, brass or bronze contacts. Used on all current carrying connections, Cool-Amp silver plating assures long life and low maintenance and will prevent series of losses from oxidation that are too small to create noticeable heat but still accumulate into major power loss. Apply to fuse clips and blades to reduce overheating.

Cool-Amp contains no cyanide and is simple to apply. It can be used by any number of people at the same time ON THE JOB in underground vaults, sub-stations and hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND SHIPPED PREPAID

WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

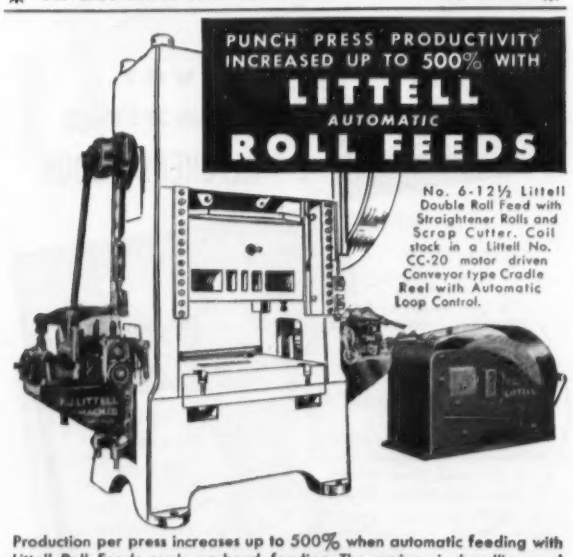
The COOL-AMP Co.

Dept. ED. 8603 S.W. 17th Avenue, Portland 19, Oregon

▲ For more details circle NED-367 M7 on enclosed inquiry slip ▲

PUNCH PRESS PRODUCTIVITY INCREASED UP TO 500% WITH

LITTELL AUTOMATIC **ROLL FEEDS**



No. 6-12½ Littell Double Roll Feed with Straightener Rolls and Scrap Cutter. Coil stock in a Littell No. CC-20 motor driven Conveyor type Cradle Reel with Automatic Loop Control.

Production per press increases up to 500% when automatic feeding with Littell Roll Feeds replaces hand feeding. The savings in handling and storage of coil stock added to the economies of faster production produce an automation dividend. Littell Roll Feeds in a wide range of sizes and models handle stock up to .156" maximum thickness and up to 72" maximum width at speeds of 50 to 250 strokes per minute. Lengths fed per stroke range up to 50". Standard Littell Automatic Feeds serve all types and sizes of presses. ***WRITE FOR THE LITTELL ROLL FEED CATALOG***

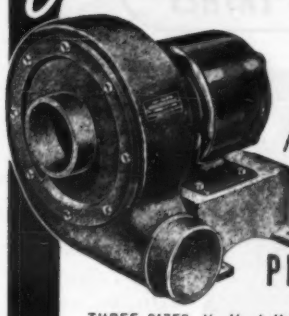
F. J. LITTELL MACHINE CO.
Speed with Safety

ROLL FEEDS • DIAL FEEDS
STRAIGHTENING MACHINES
REELS • AIR BLAST VALVES
District Offices: Detroit, Cleveland

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

▲ For more details circle NED-368 M7 on enclosed inquiry slip ▲

THE Sutton MOTOR DRIVEN PRESSURE BLOWER



THE WORLD'S Most Dependable PRESSURE BLOWER

THREE SIZES ¼, ½, 1 H.P.

USED FOR EXHAUSTING DUST, SMOKE, FUMES, VAPOR . . COOLING AND DRYING . . CONVEYING COTTON, WOOL, SHAVINGS . . FORGE BLASTING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY to reduce weight and increase strength. CENTRIFUGAL TYPE. Delivers even, non-pulsating flow of air. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp
112 W. WILSON AVENUE NORFOLK, VIRGINIA

For more details circle NED-369 M7 on enclosed inquiry slip

SAVE TIME, WEIGHT, HANDLING with TINNERMAN Speed Clamps®

HOSE CLAMP—One-piece, low-profile, spring steel. Ideal for low-pressure air, vent or drain lines. Easily applied to pre-latched position by hand, securely tightened with a pair of pliers. Ratchet-tooth locking mechanism is part of Clamp! Easily removed. For 15/32" O. D. hose, up.

ELECTRICAL HARNESS CLAMP Has a safe, interlocking tongue and slot that can't spring open accidentally, yet opens easily for servicing. No tools required. Can be pre-assembled to wire bundles before fastening to structure. For ⅛"-diameter bundle, up.

TUBE CLAMP—Simplifies attachment of tubing. With or without self-retaining SPEED NUTS that cut assembly time. With or without neoprene flame-resistant cushion. For 1/16" O.D. tubing, up.

Write for free descriptive literature!
TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

For more details circle NED-370 M7 on enclosed inquiry slip

FOR EFFECTIVE SPRAYING AT LOWER COST

remember final control is the SPRAY NOZZLE you use!

In design . . . choose the Spray Nozzles that give you proper performance, with exact spray pattern, impact, spray angle and capacity. In application . . . be sure the nozzles as supplied are produced to close tolerances. Metallurgically, make certain the spray nozzles fit your use.

With Spraying Systems you can be sure of spray nozzles to meet all three requirements. *Let Spraying Systems Co. recommend Spray Nozzles to meet your needs best.*

YOUR GUIDE TO SPRAY NOZZLE SELECTION
Spraying Systems Co. Catalog No. 24 . . . 48 pages, with complete performance data. Write for your free copy.

SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS

FOR EFFICIENT SPRAYING MAKE SURE THE NOZZLE IS RIGHT

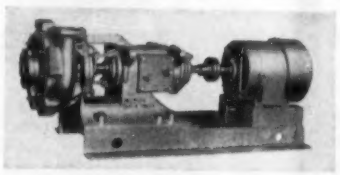
For more details circle NED-371 M7 on enclosed inquiry slip

TRANSISTOR CHECKER
has 0-250 and 0-1000 gain ranges

Current gain in two ranges from 0 to 250 and 0 to 1000 and cut-off current from 0 to 50 ma are measured directly by this transistor checker. Self-contained, pushbutton operated device requires no calibrating or adjustment. Both NPN and PNP transistors with either linear or triangular pin arrangements can be checked, either by plugging into the checker socket or with clip leads. Meter and transistor overload protection is built in. Made by **Alfred W. Barber Laboratories,** Instant Circuits Div., Dept. T.C., 32-44 Francis Lewis Blvd., Flushing 58, N. Y.

For more details circle NED-372 M7 on enclosed inquiry slip

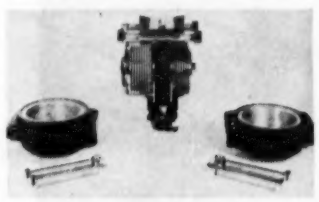
CENTRIFUGAL PUMPS
capacities up to 4000 gpm



All models in the H series of single stage, end suction, centrifugal pumps are available in sizes from 1 to 10 in. for heads up to 250 ft or more and capacities to 4000 gpm. Available water ends include the type HR for handling abrasive mixtures where head is limited, type HC with split bearing stand for purely corrosive application, and type HF for either abrasive or corrosive uses where high pressures are developed. Water-end or casing can be rotated to any one of four positions. Made by **Nagle Pumps, Inc.,** 1265 Center Ave., Chicago Heights, Ill.

For more details circle NED-373 M7 on enclosed inquiry slip

FLOW METER
accurate within ½ per cent



Accuracy of this bellows type flow meter is maintained within ½ per cent, even when ambient temperatures change by as much as 100° F and static pressure reaches 2500 psi. The differential pressure measuring device is used with mechanical recording, indicating, transmission, and control instruments in various fields. Range is changed by springs available in 15 ranges between 0-20 and 0-400 in. of water. Linear damping and external suppression adjustments are used when the meter body measures liquid level in closed tanks. Made by **Minneapolis-Honeywell Regulator Co.,** 2950 Fourth Ave. S., Minneapolis, Minn.

For more details circle NED-374 M7 on enclosed inquiry slip

free DATA MANUAL

for low cost
DRYING
BAKING
HEATING
CURING

Degreasing, Metal Prep

Describes how driQuik infra-red heat generators solve production problems in hundreds of applications. Shows how heating units and ovens of all sizes and shapes can be built at low cost by your personnel or by us to your specifications. Gives details of our free field testing service right in your own plant. Shows how driQuik infra-red generators save money in operation, because they have NO BULBS OR SOCKETS TO BURN OUT. Write for your copy of Data Booklet D117 today.

driQuik DIVISION
DRY CLIME LAMP CORP.
GREENSBURG, INDIANA

For more details circle NED-375 M7 on enclosed inquiry slip

COATED for resistance to acids, alkalies, caustics, wet or dry chemicals.

GRANET

SAFETY . . . protection against rough surfaces, abrasive materials, sand, brick, etc.

PRICED competitively for maximum wear per dollar—tough, strong and long lasting.

SHAPED in the palms and fingers for worker efficiency and comfort.

GRANET GLOVES for Industry

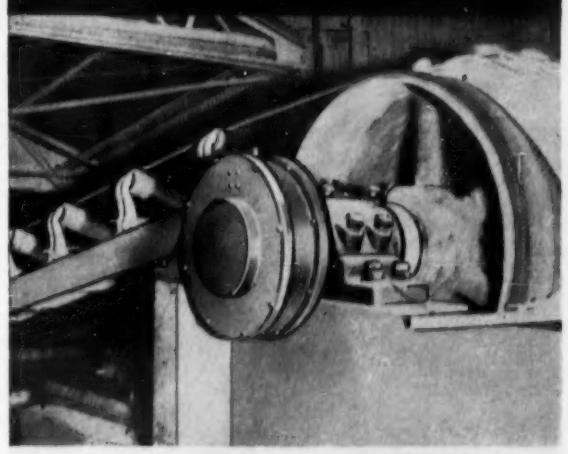
STOCKED for your convenience by industrial distributors from coast to coast. Write for name of nearest one.

EXCLUSIVE super-sensitive controlled production for high grade built-in quality.

THE GRANET CORP.
15 Loring Drive
Framingham
Mass.

For more details circle NED-376 M7 on enclosed inquiry slip

PREVENT THE REVERSAL OF CONVEYORS AND ELEVATORS WITH



STEPHENS-ADAMSON
TOTALLY ENCLOSED HOLDBACKS

ADVANTAGES

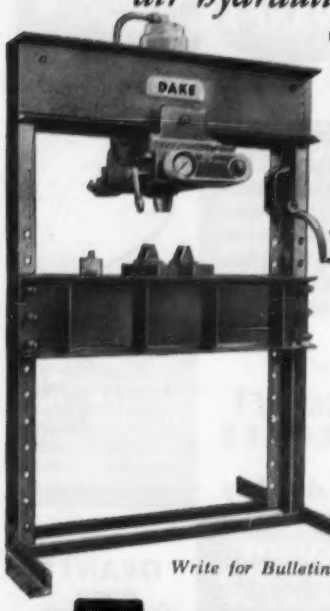
- Prevents disastrous reversal of heavily loaded belts during normal operating delays or during power failure.
- Engages without shock . . . instantly holds . . . instantly releases when power is resumed.
- Eliminates flooding of feeder points . . . protects men and equipment.
- Balanced design . . . no ratchet to become fouled . . . quickly and easily installed . . . provides years of dependable, trouble-free operation.
- Totally enclosed design prevents entry of dust and dirt . . . economical to purchase, operate and maintain.
- Available in bore sizes from 2 7/16" to 12" . . . stocked for immediate delivery.

WRITE TODAY . . . for complete information. Request Catalog No. 557.

STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
Los Angeles, Calif. Belleville, Ont.
12 Ridgeway Ave. • Aurora, Illinois

For more details circle NED-377 M7 on enclosed inquiry slip

A NEW LINE OF DAKE *air hydraulic* PRESSES



FOUR NEW MODELS

25, 50, 75, 150 TONS

. . . tonnagewise and pricewise are designed to find many applications in a wide range of manufacturing fields. Only requirement for operation is the availability of compressed air.

CHECK THESE FEATURES:

- **Rapid Ram Approach**—automatically changes to power stroke when it contacts the work.
- **Extra Long Stroke**—handles long pressing jobs more easily.
- **Movable Workhead**—self-contained, easy to center over work. Workhead can be purchased separately.
- **Modern Design**—all of the operating controls are at convenient working height.

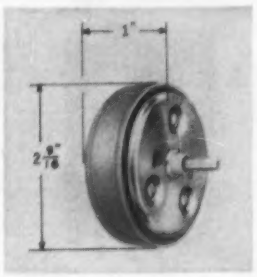
Write for Bulletin 391

DAKE PRESSES

DAKE CORPORATION
642 Seventh St., Grand Haven, Mich.

For more details circle NED-378 M7 on enclosed inquiry slip

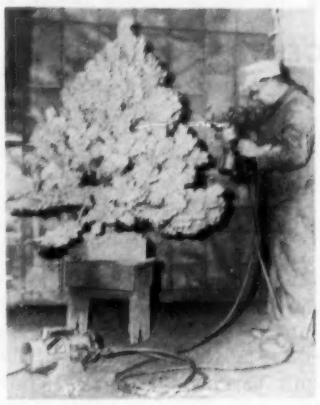
MINIATURE BELL TIMER
in ranges from 60 sec to 5 hours



Miniature Mark-Time bell timer of the 28,000 series is designed for built-in applications where space rules out conventional size units. It adapts to a variety of industrial equipment or appliances where a clear bell signal is desired at the end of a specific time period. Timing periods range from 60 seconds to 5 hours. Made by **M. H. Rhodes, Inc.**, 28 Bartholomew Ave., Hartford 6, Conn.

For more details circle NED-381 M7 on enclosed inquiry slip

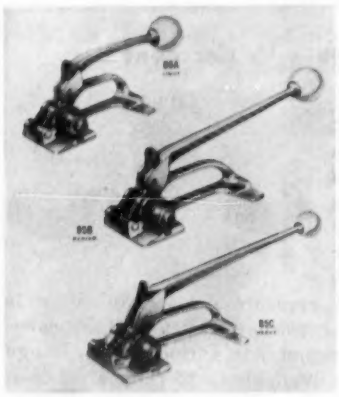
PORTABLE FLOCKING OUTFIT
simplifies artistic flocking job



Compressor, hose and attachments, and two spray guns comprise this portable flocking outfit designed to simplify artistic or functional flocking jobs. One spray gun is for the adhesive, the other for the flock. Latter gun has three controls to regulate the amount of material sprayed for pattern variation. Made by **Binks Mfg. Co.**, Dept. NED, 3122 Carroll Ave., Chicago 12, Ill.

For more details circle NED-382 M7 on enclosed inquiry slip

HAND STRAPPING TOOL
light, medium, heavy duty models



Every strap size from ¼ x 0.010 in. to ¾ x 0.035 in. can be handled by the B5 steel strapping stretcher offered in light, medium, and heavy duty models. Strap is easily applied from any direction with the tool in any position. A rotary gripping dog provides continuous take-up. Strap can be fed from a coil overhead, behind, or in front of the operator, and the seal can be applied in front of the tool or behind the gripping dog. Made by **Acme Steel Co.**, 135th St. & Perry Ave., Chicago 27, Ill.

For more details circle NED-383 M7 on enclosed inquiry slip

"I Doubled Production and Increased Accuracy with my CLAUSING LATHES"

"I turn extension shafts .001 under 3/16" for 1½" with a .0001 tolerance. The diameter must be .1865 for the full length. It's easy to maintain this accuracy with my Clausings and I can't do it with other lathes. I doubled production and increased accuracy with my Clausing Lathes."
— James H. Sawyer

CLAUSING 6300
12" HEAVY DUTY PRECISION LATHE

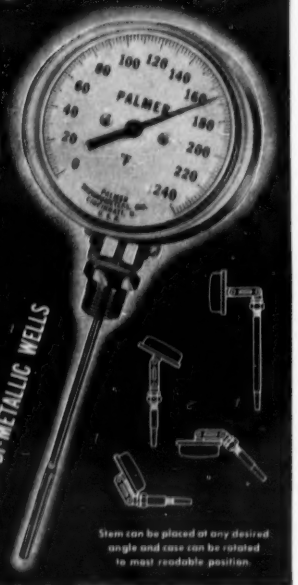
The Clausing 6300 Series has every advanced feature that contributes to machining speed and efficiency. 1" collet capacity — 1⅜" bore — forged steel spindle with tapered, key-lock nose—"Zero-Precision" Timken tapered roller bearings — quick-change gears — flame hardened bed ways. Choice of 10-speed countershaft with clutch and brake, or variable speed countershaft, 1 or 2 speed motors. 12¾" swing over bed, 7½" over saddle. 24" — 36" — 48" between centers.

Write for Illustrated Literature

CLAUSING DIVISION ATLAS PRESS COMPANY
12-113 N. Pitcher St., Kalamazoo, Mich.

For more details circle NED-385 M7 on enclosed inquiry slip

Outstanding Accuracy
PALMER
DIAL THERMOMETER



Check these functional features

- Direct-drive Bourdon Coil with a filled system for longer lasting accuracy.
- Stem can be placed at any desired angle and case can be rotated to most readable position.
- External calibration for zero setting.
- Unaffected by stem alignment.
- Accurate to one scale division.
- No sticking at any temperature.
- Non-corrosive case.

Stem can be placed at any desired angle and case can be rotated to most readable position.

Write for Free Bulletin 1035 for complete description and prices.

PALMER THERMOMETERS, INC.
Mfrs. of Industrial Laboratory, Recording and Dial Thermometers
2515 Norwood Ave., Cincinnati 12, O.

For more details circle NED-379 M7 on enclosed inquiry slip

SEALINE Hand Sealer
For Thermo-Plastic Films

SEALS BAGS - PACKAGES - STRAIGHT or IRREGULAR SHAPES

Ideal on Polyethylene and Pliofilm

- Economical — seals direct — no intermediate materials required.
- Large comfortable grip.
- Adjustable temperature control 200° to 450° F.
- Uses only 50 Watts — operates on AC or DC.

SEALINE Hand Sealer **$23.90** f.o.b. Chicago

ORDER DIRECT

SEALINE MFG. CORP.
4720 W. Lake St., Chicago 44, Ill.

For more details circle NED-386 M7 on enclosed inquiry slip

DELAWARE BARREL AND DRUM COMPANY
WILMINGTON 99, DELAWARE
In Canada: John Wood Company Limited — Toronto · Montreal · Winnipeg · Vancouver

For more details circle NED-380 M7 on enclosed inquiry slip

NO GEAR REJECTS IN A HUNDRED

Because all *Industrial Cut Gears* have Dimensional Tolerances Held Closer Than Heretofore Thought Practical!

Specify "I.G." gears and let your Quality Control Department relax. Assembly Ready I.G. gears have reduced percentage of rejects to the vanishing point. For precision cut gears—delivered promptly—let I.G. become your dependable Gear Department.

Write for complete, FREE "Gear Packet" showing Industrial Cut Gear products, applications, and services.

INDUSTRIAL GEAR MFG. CO.
4521 W. Van Buren St., Chicago 24, Ill.

For more details circle NED-384 M7 on enclosed inquiry slip

CESCO...RIGHT—BEFORE YOUR EYES!

Now...CESCO gives you style, comfort and safety in new Plastic and Metal Frame glasses

• Smart styling combined with practical on-the-job utility are the features both you and your employees will like about these new open-type safety glasses by CESCO. Combination plastic and metal frame gives the appearance of attractive personal glasses, yet provides a durable, long-wearing frame in which lenses can easily be replaced.

All-in-one plastic section forms partial lens rim and comfort bridge pad—affords full closure at nose section to keep out foreign bodies. In 2 sizes: 46 x 39 mm (No. 326), 48x41 mm (No. 328). Lens shape: F-7 in clear, anti-glare safety glass and Cescolite plastic. 4 Bridge sizes: 20, 22, 24 and 26 mm.

CHICAGO EYE SHIELD COMPANY
2715 West Roscoe Street • Chicago 18, Illinois

CESCO FOR SAFETY

ASK your CESCO Safety Equipment Distributor to show you these new plastic and metal frame safety glasses and the many other safety glasses and goggles in the CESCO line

For more details circle NED-387 M7 on enclosed inquiry slip

Here's BIG HELP IN TERMINAL WIRING!

The correct wire to correct terminal every time!

The New JONES FANNING STRIP

Connections are made through Fanning Strip on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.

9-141 Barrier Strip

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction: Brass terminals, cadmium plated. Heavy bakelite mounting.

9-161 Fanning Strip. Pat. applied for.

Send for complete data on this new basic improvement!

Jones HOWARD B. JONES DIVISION CINCH MANUFACTURING CORPORATION CHICAGO 24, ILLINOIS SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▲ For more details circle NED-388 M7 on enclosed inquiry slip ▲

Industrial GIANT or One-Man Shop

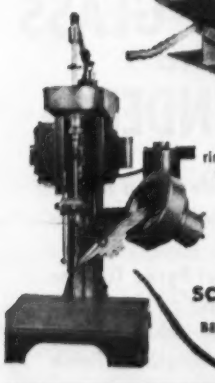
DPS *Engineers* CAN SOLVE YOUR ASSEMBLY PROBLEM!

● For assembling operations large or small, intricate or simple, we are prepared to take care of your requirements. If you have a feeding or assembling problem, though seemingly difficult, don't hesitate. Write today, send sample assembly, give details.

BOWL FEEDER for light, fragile parts. Operates on vibratory principle. Fully automatic.

BARREL FEEDER with stationary ring cover for heavy-duty production.

DPS *All-Purpose* SELECTIVE PARTS FEEDERS



DPS POWER SCREWDRIVERS 5 MACHINES BENCH & PEDESTAL TYPES

BARREL FEEDER conventional motorized type, for parts requiring critical selection.

DETROIT POWER SCREWDRIVER CO. *Write Today for Literature!*

2819 W. FORT STREET • DETROIT 16, MICHIGAN

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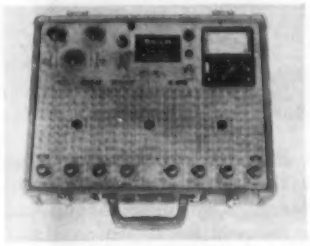
BREADBOARD OUTFIT
all components in portable case



Means of rapid development, assembly, study, and testing of circuits and components is provided by the Mini-Lab electronic breadboard outfit. It includes a built-in multimeter, regulated power supplies, expendable plugs for component leads, direct connections, eight potentiometers, and built-in resistance and capacitance selector boxes. Outfit is designed for subminiature, miniature, and semiconductor circuitry and contains a grid of tiny jacks arranged in the form of tie points, voltage busses, ground busses, coupling junctions, and input and output terminals. Vacuum tubes, transistors, and other semiconductors can be plugged into the board. The 15-lb unit measures 12 x 15 x 3½ in. with the cover opened. Made by **Stanley Aviation Corp.**, Dept. 1-A, 2501 Dallas St., Denver 8, Colo.

▲ For more details circle NED-390 M7 on enclosed inquiry slip ▲

DISPOSABLE MARKING PEN
writes on many types of surfaces

Felt writing point of the Mark-All disposable fountain pen will write on porous and nonporous surfaces of such diverse materials as glass, metals, plastics, leather, film, and wax paper. Its quick-drying ink, contained in a heavy-wall polyethylene squeeze tube, is noncorrosive and nonetching, and may be removed from nonporous surfaces. The black, white, yellow, red, orange, green, and blue inks are resistant to abrasion, water, gasoline, various solvents, vapor degreasing, and heat to 400° F. Made by **Organic Products Co.**, Dept. N, Box 428, Irving, Tex.

▲ For more details circle NED-391 M7 on enclosed inquiry slip ▲

SWING JOINTS
for machine tool coolant lines

Usage actually improves the seal of CPV free-swinging, nonleaking swing joints for machine tool coolant lines. Joints end the hazard and mess of coolant on the floor. They are available in in-line and angle types in ⅜, ½, ¾, and 1 in. sizes. Bodies are cast bronze. Made by **Combination Pump Valve Co.**, 849 Preston St., Philadelphia 4, Pa.

▲ For more details circle NED-392 M7 on enclosed inquiry slip ▲

LOW COST VIBRATORS GUARANTEE STEADY MATERIAL FLOW WITHOUT BIN DAMAGE.

Powerful hammer-like blows of Cleveland Air Vibrators prevent arching and plugging in bins, hoppers and chutes.

RC electric vibrators are silent. Built on the rotating weight principle, they are no noisier than an electric motor.

Portable LSRR vibrators have male wedge-type mounting brackets which fit the female bracket on covered hopper railroad cars. We will be happy to furnish you a catalog of our complete vibrator line.

Air or Electric
Silent or Standard
Portable or Permanent

THE CLEVELAND VIBRATOR CO.

2744 Clinton Avenue — Cleveland 13, Ohio.

▲ For more details circle NED-393 M7 on enclosed inquiry slip ▲

NOW A NEW DEPARTURE IN PILLOW BLOCKS

- Clean, rigid, compact design.
- Free of any lubricating fixtures.
- Bearings sealed and lubricated-for-life.
- Easily mounted without special tools.
- High capacity precision ball bearings.
- Accommodates any misalignment.
- 32 shaft sizes, ½" through 2 15/16".
- Interchangeable with most makes.

Send for Catalog PBC for complete details.

NEW DEPARTURE
DIVISION OF GENERAL MOTORS • BRISTOL, CONN.

▲ For more details circle NED-394 M7 on enclosed inquiry slip ▲

MANEUVERING ELIMINATED
by chemical plant with Pettibone Speed Swing's exclusive 180° boom swing

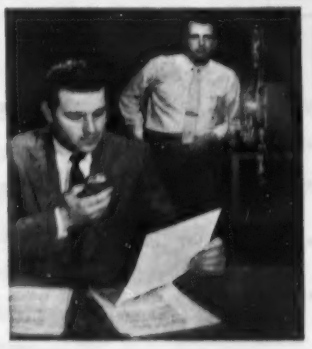
One of the practical reasons why the versatile Speed Swing is fast becoming the most popular yard machine is demonstrated above. Speed Swing does not require a large area for maneuvering. The material is lifted high, in seconds, as Speed Swing backs from the pile, saving time and loading costs. Write today for literature describing the six attachments and outstanding operating features of the Speed Swing. There's no obligation!

THE NEW YARD SENSATION PETTIBONE SPEED SWING

Pettibone Mulliken Corp., 4700 W. Division St., Chicago 51, Ill. • SPaulding 2-8300

▲ For more details circle NED-395 M7 on enclosed inquiry slip ▲

MAKE YOUR OWN SOUND MOVIES . . . THIS EASY, INEXPENSIVE WAY



Here, in one compact, portable unit is all you need to make your own sound movies.

This new Kodascope Pageant Sound Projector, Magnetic-Optical, is both a superb sound projector *and recorder*.

Take any kind of 16mm film, sound or silent, and have a magnetic striping added for about 2½¢ per foot. Then run it through your Magnetic-Optical and record *your* own sound.

Mix voice with music, add from other sound sources, record on the spot, blend automatically. Erase, alter, re-use the magnetic stripe at will. Change your message to fit special groups, as often as you wish.

And *project* every kind of 16mm film (sound or silent) with the same ease, brilliance, fine tone, and freedom from maintenance that you get from *every* Pageant.

Interested? Write for full details.

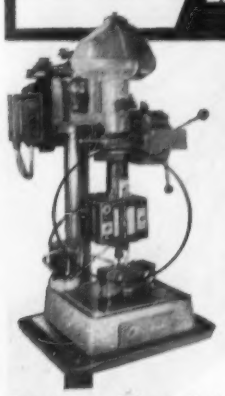
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak

▲ For more details circle NED-396 M7 on enclosed inquiry slip ▲

TIPS for PROFITABLE TAPPING

Commander LĒAD-MATIC TAPPER



High Production Automatic Lead Screw Tapper

Put a Commander Lēad-Matic Tapper on *any* drill press and you're ready to handle any tapping job — precision or otherwise. Designed to handle a very wide range of taps, Lēad-Matic operation is simple and foolproof — even inexperienced operators produce precision threads. The Lēad-Matic's electrically controlled cycle or jog tapping actions provide versatility to handle any job. Ruggedly built for trouble-free service.

Features That Help You Tap Better

- Precision ground lead screws insure finest threads.
- Automatic tap reversal—no drill press motor reversing—faster work.
- Hand, foot or fixture switch controls.

Your nearby Commander Distributor has the Lēad-Matic — see it soon.

Commander MFG. CO.
4220 W. KINZIE ST., CHICAGO 24, ILLINOIS

For more details circle NED-397 M7 on enclosed inquiry slip

Equipto custom designed BENCHES at assembly line prices

161 Models in stock

Equipto's complete line of modern flow Benches give you an unlimited choice of units. They can be used singly or arranged into one continuous streamlined assembly. Available with many types and styles of drawers, drawer pedestals, cabinet pedestals, sliding doors, aerial shelves, and a choice of 4 different tops.

Each drawer is a vault unto itself . . . cannot be pilfered by removing drawer above. All drawers ride quietly on four trouble-free nylon rollers. Write for free catalog No. 200 illustrating and describing this outstanding line of top quality benches.

Equipto — Division of Aurora Equipment Co. 690 Prairie Avenue Aurora, Illinois

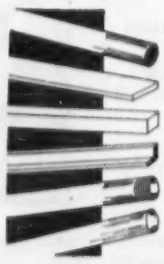
Steel Shelving . . . Parts Bins . . . Drawer Units . . . Lockers . . . Carts . . . Work Benches

For more details circle NED-398 M7 on enclosed inquiry slip

1 MAN + 1 BENDER

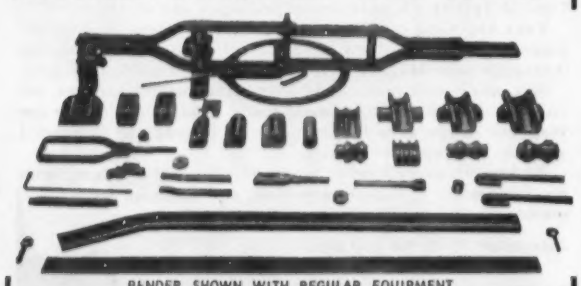
BENDS THESE:

- Wrenchless, ready to use.
- Practical, quickly set up.
- Adaptable, replaces special equipment.
- Versatile, 141 different dies available.
- Dependable, a must for maintenance, limited production.
- Invaluable, optional equipment makes jobs easier.



ROUNDS
FLATS
SQUARES
ANGLE IRON
PIPE
TUBING & CONDUIT

HOSSFELD UNIVERSAL® IRON BENDER



BENDER SHOWN WITH REGULAR EQUIPMENT

FREE: WRITE FOR BULLETIN

HOSSFELD MFG. CO.
425 W. THIRD STREET, WINONA, MINNESOTA

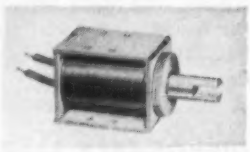
For more details circle NED-399 M7 on enclosed inquiry slip

SMALL DRILLING HEAD is air-operated reciprocating unit

This compact pneumatic drilling unit will drill, countersink, deburr, and perform other machining operations on a production basis. Reciprocating feed and retraction are effected with an integral double-acting cylinder. High speed bearings are used throughout, and a micrometer stop gives positive depth control. Priced under $100, unit has a 1/4-in. drill capacity and a 1 1/2-in. stroke. Made by **Model Machine Co.**, 4729A Hawthorne St., Philadelphia 24, Pa.

For more details circle NED-400 M7 on enclosed inquiry slip

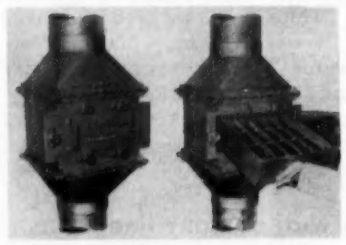
SOLENOIDS for 6 to 230 v ac or dc operation



This more powerful version of the No. 4 solenoid, available in intermittent and continuous duty types, has a 1/2 in. diameter tapered plug and plunger. Unit reportedly "lifts" 9 lb. Plunger stroke is adjustable from 1/32 to 3/4 in. Applications include electrical appliances, business machines, computers, counters, automatic timers, cycling devices, vending equipment, and animated displays. Units are available for any specific voltage from 6 to 230 v, ac or dc. All direct current units are also available for 400-cycle operation. Made by **Guardian Electric Mfg. Co.**, 1621-I W. Walnut St., Chicago 12, Ill.

For more details circle NED-401 M7 on enclosed inquiry slip

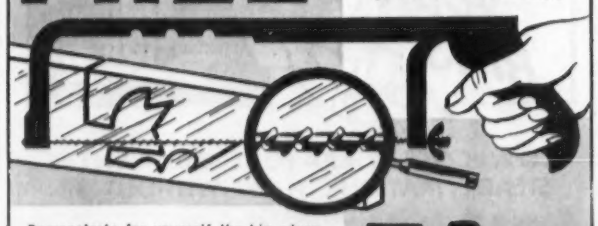
MAGNETIC GRATE SEPARATOR for vertical gravity flow lines



Models specifically adapted for either tramp iron or fine iron removal are available in this permanent magnetic grate separator for vertical gravity flow lines. Grates and their housing comprise a single package for easy mounting in a simple opening. A hinged and gasketed door front encloses and holds the double-banked magnetic grates within the housing, making them accessible for periodic removal of iron accumulations. Units can be supplied with vibrator mounted on the housing for applications involving material that will not readily flow through openings between the tubes composing the grates. Made by **Eriez Mfg. Co.**, 1325 E. 12th St., Erie 6, Pa.

For more details circle NED-402 M7 on enclosed inquiry slip

FREE TO INDUSTRIAL USERS . . . (Limited Time Only)



Demonstrate for yourself the big advantage of now being able to saw up or down, left or right, or in circles with Tyler SPYRAL Hacksaw, Coping Saw and Bandsaw Blades.

Saw any material including metal, wood, plastic, tubing, etc. without chipping or tearing. Blades are of rugged spring tempered steel, hardened for maximum cutting life. SPYRAL Bandsaw Guides & Blades available for Delta 14" Bandsaws and all DO-ALL machines.

Since your FREE blade will be distributed by your industrial supplier, it is imperative that you include his name in coupon.

Tyler SPYRAL HACKSAW BLADE!

MAIL COUPON FOR FREE SAMPLE

TYLER MANUFACTURING CO., INC. Dept. D-12
1005 W. Arbor Vitae Ave., Inglewood 7, Calif.
Please send FREE sample SPYRAL HACKSAW BLADE and full information about all Tyler Products.
Name
Company's Name
Address
City & State
My Industrial Supplier is

For more details circle NED-403 M7 on enclosed inquiry slip

MAKE YOUR OWN CRANE... ...at a NEW LOW COST!

Handle loads up to 2000 lbs., SAFELY, easily . . . Buy crane beam locally — we furnish the rest . . . A pair of self-aligning, ball bearing Flexo-Crane trucks cost only . . . . . $119.00 Simple instructions come with shipment.

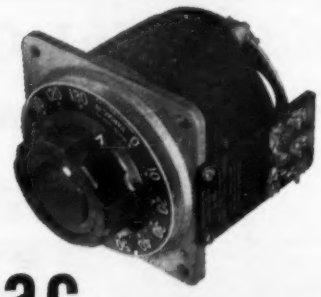
Complete Flexo-Crane, with hoist and accessories, is also economically priced. To get full details, ask for —

BULLETIN F-114

The Abell-Howe Line includes a wide range of overhead cranes monorails, hoists and accessories.

ABELL-HOWE COMPANY 7747 VAN BUREN ST. FOREST PARK, ILL.

For more details circle NED-404 M7 on enclosed inquiry slip



Variac® the Original

Continuously-Adjustable Autotransformer

- ★ Output Voltages 0 to 17% Above Line or 0 to Line Voltage
- ★ Power Ratings from 0.3 kva to 51 kva
- ★ Exclusive DURATRAK Brush-Track design for Extra-Long Life
- ★ Direct-Reading Dials
- ★ For 25, 50-60 and 400 Cycle Line Frequency
- ★ Motor-Driven Models
- ★ Highest Efficiency

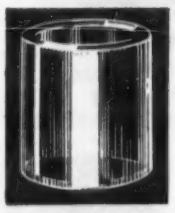
GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Massachusetts, U. S. A.

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA — 1000 N. Seward St. LOS ANGELES 38
8055 13th St. Silver Spring, Md. WASHINGTON, D. C. — 1150 York Road, Abington, Pa. PHILADELPHIA
1182 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO — 6605 W. North Ave., Oak Park, Ill. CHICAGO
In CANADA: 99 Floral Parkway, TORONTO 15

For more details circle NED-405 M7 on enclosed inquiry slip

SWIFT carries a complete stock of



GAUGE GLASS and CYLINDERS

Need Gauge Glass or Cylinders in a hurry? Then write, wire or phone Swift for immediate delivery.

We have a complete stock of Pyrex Tubular Gauge Glass and Cylinders on hand for chemical, pharmaceutical or industrial applications. Supplied in any length or finish from 2 mm. O.D. to 7" O.D.

SWIFT Glass Division
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

For more details circle NED-406 M7 on enclosed inquiry slip

FOR WET OR DRY PICK-UP . . .
IDEAL FOR BOILER CLEANOUT

Assemble your own vacuum cleaning outfit to handle those extra-dirty jobs! Here's the ideal combination . . . Kent DRUM-SEAL, any Kent Vacuum Head, any metal container up to 55-gal. drum size. Capacity limited only by size of container.

For normal wet pickup and cleaning up large areas of liquid . . . fast removal of dust, dirt, sawdust, metal chips, filings, and other small debris . . . especially suited for efficient boiler cleanouts.

WRITE TODAY FOR FULL DETAILS
KENT CO., INC.
449 Canal Street
ROME, N.Y.

For more details circle NED-407 M7 on enclosed inquiry slip

WIRE CLOTH PARTS

Wire cloth parts fabricated to your order are a Newark specialty. One division of our company is fully equipped and staffed to to manufacture any part you need with a wire cloth insert.

We also offer an engineering service to assist you in design or redesign of your parts. Ours is a "one-stop" service . . . we deliver complete parts guaranteed to meet your specifications. Send for our Fabricated Parts Catalog.

NEWARK for ACCURACY

Newark Wire Cloth COMPANY
351 Verona Avenue, Newark 4, New Jersey

For more details circle NED-408 M7 on enclosed inquiry slip

DOOR FASTENER
air-tight unit seals against gasket

Compression type No. 25 fastener is usable on doors which must be sealed against a gasket to make them air, light, or dust-tight, or vibration resistant. It is cadmium plated and consists of a sliding pivoting latch which is tightened by a thumb screw. Sample is available from the manufacturer, **Torit Mfg. Co.**, Dept. NE, Walnut & Exchange Sts., St. Paul 2, Minn.

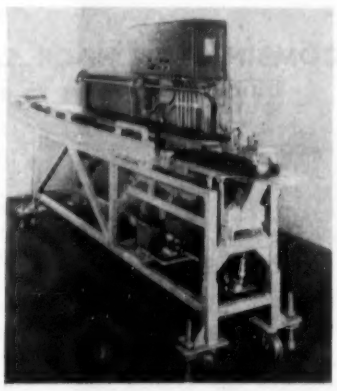
For more details circle NED-409 M7 on enclosed inquiry slip

INSPECTION GLASSES
lenses adjust separately

The 3D3 Opticaid inspection glasses magnify three times at a convenient arms length. Worn like glasses, they permit inspection of precision parts and examining delicate operations with both hands free to work. Lenses for each eye adjust separately. Pupilary distance is adjustable from 58 to 70 mm, and provision is made for addition of prescription lenses. Made by **Edroy Products Co.**, Dept. 19, 480 Lexington Ave., New York 17, N. Y.

For more details circle NED-410 M7 on enclosed inquiry slip

STRIP STOCK FEEDER
automated unit feeds flat strip



Heavy flat strip stock of thicknesses beyond the capacity of conventional roll feeds and straighteners is handled by this portable, package-type, automatic press feeder. Stock is rolled manually into a preload station and automatically lowered to a feeding station by air-cylinder controlled arms. Sheet is fed into the press by reciprocating mechanism having mechanical grippers. Stroke is adjustable to pressroom application. Electrical controls enable unit to be tied into the press cycle for automatic feeder arrangement. Feeder is about 6 ft high overall and about 3 ft wide. Overall length depends on length of stock to be handled. Made by **Press Automation Systems, Inc.**, Dept. ND, 25418 Ryan Rd., Centerline, Mich.

For more details circle NED-411 M7 on enclosed inquiry slip

For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.
For stainless steel soldering, use RUBY'S Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

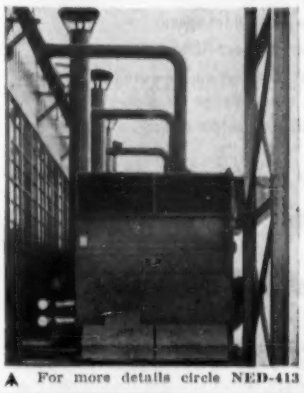
For more details circle NED-412 M7 on enclosed inquiry slip

HOW YOU SAVE . . .
Getting Drier Compressed Air

● Save the cost of cooling water and you save the price of the Niagara Aero After Cooler (for compressed air or gas) in less than two years.

Extra, for no cost, you get drier compressed gas or air for your process. You get better operation and lower costs in the use of all air-operated instruments, machines, or paint sprays. You save expense for piping, pumping, water treatment and disposal.

Niagara Aero After Cooler cools compressed air or gas (evaporatively) below the temperature of surrounding atmosphere, with no further condensation in your air lines.



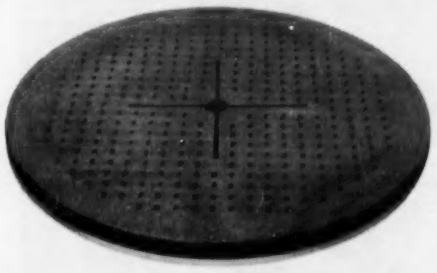
Write for Bulletin 130.

* * *

NIAGARA BLOWER COMPANY
Dept. ED-12
405 Lexington Ave.,
New York 17, N. Y.

For more details circle NED-413 M7 on enclosed inquiry slip

longer disc life, lower grinding costs



Gardner Abrasive Discs
. . . made to meet your specifications
Send for latest general abrasive catalog.

GARDNER abrasive discs

GARDNER MACHINE COMPANY
462 Gardner St.
Beloit, Wisconsin

For more details circle NED-414 M7 on enclosed inquiry slip

SILVER ALLOY BRAZING GIVES YOU THESE BENEFITS

JOINS MOST METALS

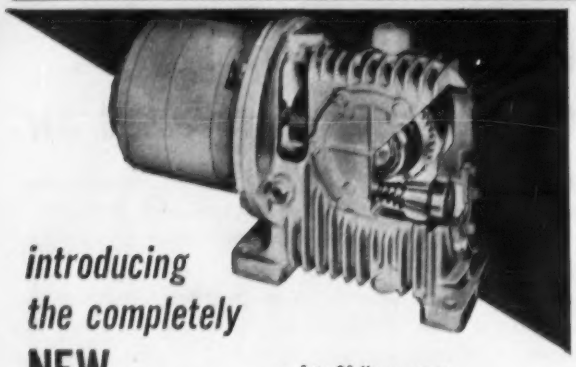
STRONG, PERMANENT JOINTS

CHOICE OF HEATING METHODS

Join most metals—similar or dissimilar with Handy & Harman's EASY-FLO or SIL-FOS, quickly and economically.
Brazed Joint is permanent and strong—fluid and gastight, resistant to corrosion and vibration.
You choose the heating method—torch, burner, induction, electric resistance, incandescent carbon, salt bath or furnace.
With silver brazing, the design of your product often can be simplified.
Bulletin 20—gives you the full story of EASY-FLO, SIL-FOS and HANDY FLUX as well as information on joint design and brazing techniques. Send for your copy.

HANDY & HARMAN
82 Fulton Street
New York 38, N. Y.

For more details circle NED-415 M7 on enclosed inquiry slip



introducing the completely

NEW Cone-Drive GEARMOTOR

- 1 to 25 Horsepower
- Extended shaft
- Shaft mounted
- 27 Output speeds
- Standard NEMA D-flange motors
- Compact double-enveloping worm gear design for high efficiency
- High output torque ratings
- Ask for catalog 57. It's free!

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Division, Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. McNICHOLS ROAD • DETROIT 12, MICHIGAN

For more details circle NED-416 M7 on enclosed inquiry slip

This NEW Manual Starter has EVERYTHING!

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Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-417 M7 on enclosed inquiry slip

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Sebastian

New 13" and 15" Precision Geared Head Lathes

These new, more powerful, more capable lathes will: Work to the closest tool room tolerances ... Stand up under continuous, heavy-duty, production runs ... Available in 5', 6' and 8' bed lengths ... Features hardened bed ways, dial selector for spindle speeds; automatic lubrication of headstock and apron; independent drop lever clutches for power feeds; heavy, modern pedestal and 60 pitch gear box.

Write for catalogs describing the new cost-cutting machine tools designed and built by SHELDON, and, the name of your nearest distributor where you can see and test them in operation.

SHELDON MACHINE CO., Inc.
4215 N. Knox Avenue, Chicago 41, Illinois

For more details circle NED-418 M7 on enclosed inquiry slip

PIPE-WALL GAGE
portable unit for 2-8 in. diameters

Transistorized 7½-lb AccuRay portable pipe-wall thickness gage makes quick, nondestructive pipe-wall thickness measurements on 2 to 8-in. diameter pipe. Measuring unit gives a reading independent of pipe diameter and maintains a permanent calibration. Principle of radiation absorption permits measuring of nonferrous or plastic pipe. Reproducibility and resolution exceeds 0.010 in. in wall thickness range from 0 to 1 in. Reading is obtained by placing the detector on the pipe and taking the reading directly from a meter. Made by **Industrial Nucleonics Corp.**, Dept. 11, 1205 Chesapeake Ave., Columbus 12, Ohio.

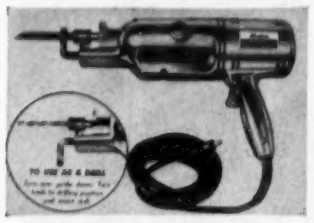
For more details circle NED-419 M7 on enclosed inquiry slip

ADJUSTABLE SKID RUNNERS
convert pallet shelf for skid use

Any conventional pallet storage shelf can be converted into a permanent or temporary skid storage rack with these adjustable skid runners. They are adjustable sideways and cannot fall out or move backward or forward as flanges at both ends fit over shelf stringers. Made by **Hartman Metal Fabricators, Inc.**, Dept. 7, 133 Murray St., Rochester 6, N. Y.

For more details circle NED-420 M7 on enclosed inquiry slip

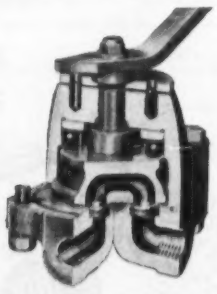
COMBINATION HACK SAW & DRILL
quickly converts to either service



Gun-shaped combination hack saw and drill can be used to cut or drill steel, sheet metal, pipe, rod, tubing, fiber, plastic, wood, and wall board. Removing and inserting the tool in the chuck and shifting the knob to drill or saw position quickly converts the Trades Master for either service. As saw blade wears, guide can be moved backward until all the blade is used. Adapter chuck accommodates any size drill up to ¼ in. Other attachments include a flat or rotary file and a nibbler for biting through metal up to 20 gage. Unit operates on 110-120 v ac or dc and has a ground wire through its cord for safety. Made by **Modern Mfg. Co.**, 683 Davisville Rd., Willow Grove, Pa.

For more details circle NED-421 M7 on enclosed inquiry slip

NO EXTERNAL LEAKAGE



Manual Shear-Seal valves (250, 1500, 3000 and 6000 P.S.I.) are leakproof and stay leakproof for years of service with little or no maintenance; no internal port to port leakage in the detented positions and, of course, no external leakage. Sealing qualities actually improve with use, due to wear compensating lapping action of "Shear-Seals."

You get excellent throttling, smooth action to any degree of flow without fighting the fluid pressure.

Quick as a quarter turn of the handle you can open the full flow (or shut it off) with surge dampening action, because the round tubular passages have no spools or poppets obstructing flow.

BARKSDALE VALVES

5125 Alcoa Avenue, Los Angeles 58, California

Ask for bulletin 5-H, -A and -W.

For more details circle NED-422 M7 on enclosed inquiry slip

MIGHTY MIDGETS

MAC-38S
Single Ram, Double Acting Air Cylinder

. . . that SAVE SPACE and WEIGHT when You AUTOMATE!

You are sure to find these miniature but MIGHTY pneumatic cylinders, valves and accessories most useful for automatic work and control applications, especially where savings of weight and space are a MUST!

Clippard's versatile line of air components are "precisioneered" for millions of cycles of trouble-free operation. Small and easily mounted, they fit most anywhere to help automate your present work operations, or to improve equipment you are now designing.

Put these mighty midgets to work for you, NOW, to increase production and improve work quality AUTOMATICALLY.

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Clippard INSTRUMENT LABORATORY, INC.
7350-N Colerain Road, Cincinnati 24, Ohio
Manufacturers of R.F. Coils, Electronic Equipment, Miniature Pneumatic Devices

For more details circle NED-423 M7 on enclosed inquiry slip

WHEN?

When is the best time to put out a fire? The instant it starts, with a Kidde Carbon Dioxide Extinguishing System. Available with automatic or manual operation, self-contained Kidde built-in systems use pressurized carbon dioxide to smother fire in seconds. No mess to clean up, no falling weights, no parts replacement after a blaze. Write for Kidde's Systems Catalog.

The words 'Kidde', 'Lux', 'Lux-O-Matic', 'Fyre-Freez' and the Kidde seal are trademarks of Walter Kidde & Company, Inc. and its associated companies.

Kidde

Walter Kidde & Company, Inc.
1224 Main St., Belleville 9, N. J.

For more details circle NED-424 M7 on enclosed inquiry slip

SURETY
SURESEAL
INDUSTRIAL GLOVES
the only gloves made with HYCAR

Countless case histories record the fact that Sureseals outwear rubber and other synthetics (we make them, too) on most jobs.

For most of those "tough-on-gloves" jobs Surety Sureseals give you the greatest hand protection and longest service life. Sureseal has the highest resistance to practically all industrial chemicals, acids, oils, solvents, etc. . . . plus 4 times greater snag resistance and 10 times greater abrasion resistance. Write today on your letterhead and we'll arrange a test at our expense—just tell us the material gloves are subjected to. Sureseals are available in numerous styles including Turncuffs and various weights and lengths. Dept. N.

THE SURETY RUBBER CO.
CARROLLTON, OHIO
In Canada: Safety Supply Co., Toronto

For more details circle NED-425 M7 on enclosed inquiry slip

IRONBOUND
55 Hoffman Place • Hillside, N. J.

For more details circle NED-426 M7 on enclosed inquiry slip

PORTABLE THERMOMETER
obtains spot temperatures

Accurate and rapid means of obtaining spot temperatures of petroleum products, chemicals, and other fluids in barges, tankers, and tanks is provided by the Model 917 portable resistance thermometer. It is UL-approved for use in hazardous locations and consists of a two-range temperature indicating instrument, resistance bulb with 60-ft cable and plug connector, range changing switch, nonlocking power switch, 6-v battery, and spring-actuated grounding terminal. Scales with −20 to 100° F, 60 to 180° F, or other ranges are available. Length of immersed cable is shown by brass markers at 5-ft intervals. Made by **Weston Electrical Instrument Corp.**, Newark 12, N. J.

For more details circle NED-429 M7 on enclosed inquiry slip

And they'll stay down with Magliner magnesium dock boards on the job! Magliners speed loading, eliminate dock congestion . . . get extra work from power trucks and other loading equipment. Magliners are magnesium-light—easy to put down . . . easy to move. No heavy lifting . . . no injury hazards. Men, loads and equipment move *fast, sure, safe.* Magliners are magnesium-strong, too . . . built to take it . . . safely handle loads up to 20,000 lbs. Low initial cost. Less maintenance. Dependable long-life service. *Economy* and *cost-savings* right down the line! Put all these advantages to work for you. Put Magliners on your dock!

Write for Bulletin DB-204
MAGLINE INC., P. O. Box 912
PINCONNING, MICHIGAN

MagLiner MAGNESIUM DOCK BOARDS

Canadian Factory: Magline of Canada, Ltd., Renfrew, Ontario

For more details circle NED-433 M7 on enclosed inquiry slip

SHAFT SEAL
withstands 575° F at 4000 rpm

Long life is claimed for this reciprocating shaft seal which, using G-E Versilube F-50 silicone oil, will withstand up to 575° F at 4000 rpm. Inner and outer Teflon wedge seals are separated by a brass membrane. Standard retainer and back-up rings are brass, but they can be stainless steel or other alloys to specifications. Made by **Skinner Seal Co.**, 3003 Sutter St., Santa Ana, Calif.

For more details circle NED-430 M7 on enclosed inquiry slip

when you come to hardware take your case to:

J. H. SESSIONS & SON

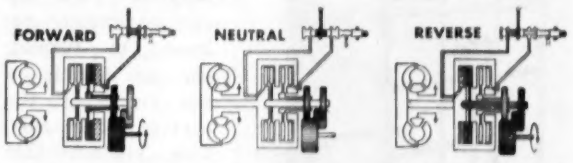
Air Force and Signal Corps transit case hardware and Engineer Corps chest hardware to exact government specifications. Standard and special stampings and stamped assemblies in a wide range of finishes. Write for literature.

J. H. SESSIONS & SON
289 RIVERSIDE AVE., BRISTOL, CONN.

For more details circle NED-427 M7 on enclosed inquiry slip

LIFT TRUCK TORQUE CONVERTER
eliminates manual gear shifting

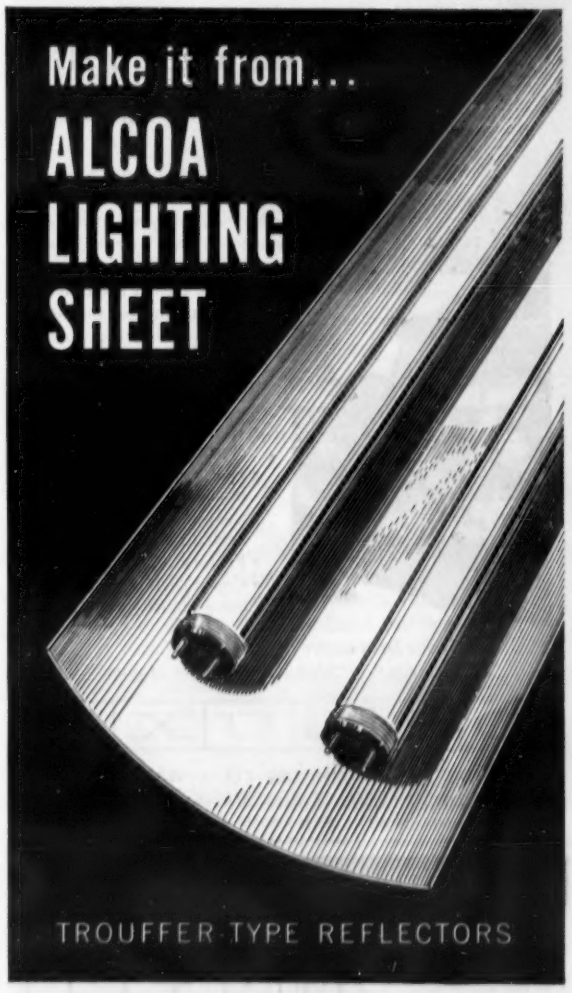
Operator of a lift truck equipped with the Power Shift torque converter drive can "inch" the truck, yet maintain engine speed with the foot accelerator to



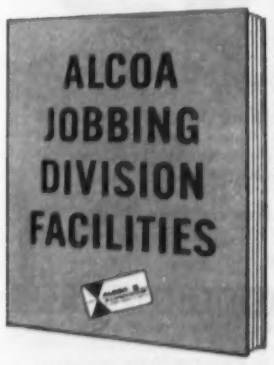
obtain maximum load lifting speed. The optional drive for Allis-Chalmers lift trucks eliminates manual gear shifting. Forward and reverse directions are controlled by a selector mounted on the steering wheel. Drive also requires truck to be in neutral before the engine can be started. The transmission automatically returns the drive to neutral when the operator leaves his heat. Drawings show operation of the transmission. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

For more details circle NED-431 M7 on enclosed inquiry slip

Make it from...
ALCOA LIGHTING SHEET



For the production of trouffer-type reflectors and other types not requiring spinning or deep drawing, Alcoa® Lighting Sheet is available through the Jobbing Division and Alcoa distributors. It is made in both diffuse and specular reflecting surfaces. The sheet has an Alzak finish, Alcoa's registered trademark for an anodic treatment that produces excellent reflectivity and corrosion resistance. Call your Alcoa sales office for more information on lighting sheet.



FREE BOOK!
Describes equipment of Alcoa Jobbing Division. Shows kinds of jobs handled. 16 pages, easy reading, many pictures. Circle the Inquiry Card, or write: ALUMINUM COMPANY OF AMERICA, 1951-M Alcoa Bldg., Pittsburgh 19, Pa.

For more details circle NED-434 M7 on enclosed inquiry slip

MEASURE RPM
as low as 2/100 of 1 RPM
as high as 100,000 RPM
with Improved
JAQUET SPEED INDICATOR
a Chronometric Tachometer of highest accuracy and dependability

4 MODELS
0-200 RPM
0-2,000 RPM
0-20,000 RPM
0-100,000 RPM
measuring also FPM WITH WHEEL TIP

SEND FOR BULLETIN 735

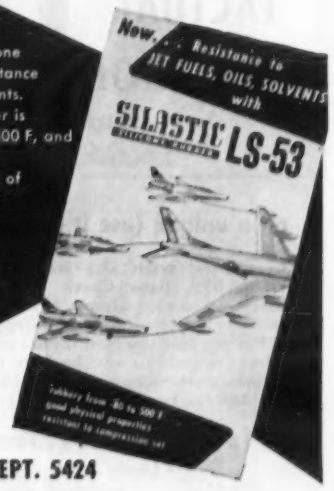
HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.
Tachometer Headquarters

For more details circle NED-428 M7 on enclosed inquiry slip

NEW Booklet, New Product!
SOLVENT-RESISTANT SILASTIC LS-53
SILICONE RUBBER

SILASTIC* LS-53, the Dow Corning fluorocarbon silicone rubber, has excellent resistance to jet fuels, oils, and solvents. In addition, this new rubber is serviceable from −80 to 500 F, and has physical properties comparable to other types of Silastic. This new booklet describes the properties of Silastic LS-53 and suggests applications.

*T.M. REG. U.S. PAT. OFF.



first in silicones

WRITE DEPT. 5424
Dow Corning CORPORATION
MIDLAND, MICHIGAN

For more details circle NED-432 M7 on enclosed inquiry slip

MAN PROTECTING A BIG INVESTMENT!

The man above is making a fine, positive adjustment on an EMPCO Leveling Jack, setting the machine level . . . making certain it delivers precision performance with minimum downtime . . . minimum cost! EMPCO Jacks provide a solid, smoothly adjustable foundation for machine tools, large surface plates, automation lines, tool room and production equipment of all types.

Used together with VI-SORB Mounting Pads, EMPCO Jacks control internal and transmitted vibrations. They reduce noise, retard creepage and frequently eliminate the need for anchor bolts.

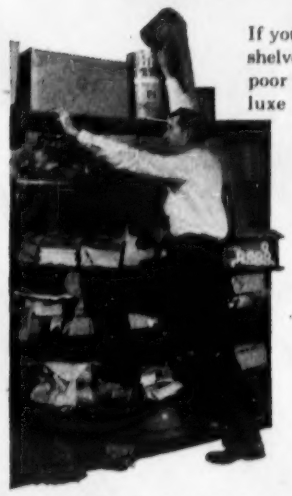
Jacks available in six styles, 25 models. Pads cut to fit. Write us about your machine installation problems.

Send Today For Descriptive Bulletin No. 100.
The Enterprise Machine Parts Corporation
2727 Jerome Avenue • Detroit 12, Michigan

EMPCO LEVELING JACKS

For more details circle NED-435 M7 on enclosed inquiry slip

QUICK! CALL THE DELUXE DEALER
WE HAVE A SHELVING PROBLEM



If you are troubled with sagging shelves, insufficient storage space, poor layout, call your local Deluxe dealer. He will engineer flexible, efficient shelving racks of Deluxe steel shelving—the sturdiest and best-designed shelving made.

These features mean lowest cost installation for you
- Rigid, fast erecting bin-type uprights
- Boltless, adjustable shelf brackets
- Snap-in dividers for quick flexibility
- Factory-reinforced shelves
- Coped shelf corners for more capacity

Call your local dealer or write for new "Shelving Reference Manual"

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DELUXE METAL FURNITURE CO. • WARREN, PA.
A Division of Royal Metal Manufacturing Co.

For more details circle NED-436 M7 on enclosed inquiry slip

15 YEARS SERVICE WITH ONE SET OF CUSHIONS

. . . actual report on

LOVEJOY Flexible Couplings

Up to 15 years maintenance-free service is not unusual with Lovejoy lubrication-free flexible couplings.

Performance like this is practical proof of these soundly engineered features:

SIMPLE, RUGGED CONSTRUCTION. Fewer parts. No intricate mechanisms. Nothing to lubricate.

LOAD TRANSMITTED BY CUSHION COMPRESSION. No wear on the metal jaws.

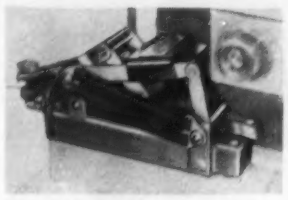
DOUBLE-LIFE CUSHIONS. One half of the cushions act as idlers—except on reversible loads. A quick interchange provides a new set of cushions. This can be done without dismantling the coupling.

You can get Lovejoy performance for your application. *Let us know your requirements or request complete-line catalog.*

LOVEJOY FLEXIBLE COUPLING CO.
4802 W. LAKE STREET • CHICAGO 44, ILLINOIS
Mfrs. of Flexible Couplings, Variable Speed Pulleys and Transmissions, Motor Bases and Universal Joints.

For more details circle NED-437 M7 on enclosed inquiry slip

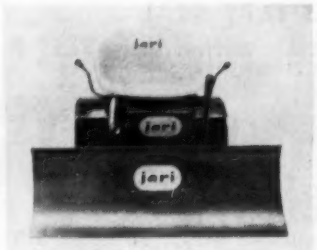
AUTOMATIC PRESS FEEDS
strength and efficiency improved



Carrier bridge of improved 2, 3, and 4-in. Jaco automatic press feeds is now made of cast semisteel for greater rigidity. A new, quick release lock for the non-return blade provides rapid release, adjustment, and locking of the blade. Feeds are powered by press ram, and they handle coil stock up to 4 in. wide and 3/32 in. thick. Micrometer adjusted feed stroke lengths range up to 4 in. Devices can be mounted on the dieset or press table of any mechanical, hydraulic, compressed air, or electrically operated press. Made by **Jaco Devices, Inc.**, 95 High St., Hingham, Mass.

For more details circle NED-438 M7 on enclosed inquiry slip

SNOWPLOW BLADE
converts mower to snow mover



This 42-in. snowplow blade converts the versatile Jari Square-Turn PoweRide mower into an efficient snow mover. Blade adjusts to three different positions. Two adjustable height leveling skids provide desired clearance for paved or unpaved surfaces. The PoweRide features high maneuverability, a molded plastic seat, and either 3.3 or 6.8 hp engines. Speed is up to 4 mph. Made by **Jari Products, Inc.**, Dept. NED, 2990 Pillsbury Ave. S., Minneapolis 8, Minn.

For more details circle NED-439 M7 on enclosed inquiry slip

DRAGLINE CART
tow pins released from either side

Dragline cart operating on in-floor dragline systems can be quickly released by turning the cam handle on the front of the cart to either side. Tow pin in this coupling mechanism is hardened to withstand rough usage in warehousing, manufacturing, and materials handling operations. Further protection for the double-faced cam coupler is provided by optional round-cornered decks. The projecting front deck channel acts as a bumper to protect the pin. Made by **Safety Industries, Inc.**, SI Handling Systems Div., Box 70A, Easton, Pa.

For more details circle NED-440 M7 on enclosed inquiry slip

FACTUAL NEW BOOK

on a unique (use it anywhere) check valve

Combined with any standard pipe fitting, the DURABLA Basic Check Unit becomes a complete check valve—for almost any service. *It operates perfectly in any position . . . handles any liquid, gas or air.*

For the full story on these versatile valves, send for a free copy of this *new* booklet. Includes typical applications, construction details, table of sizes and weights, etc. Ask for Form 300 NED 127.

DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.

DURABLA®

Patent No. 2,649,277 DM-28

For more details circle NED-441 M7 on enclosed inquiry slip

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES
CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outse competition.

WATERLOO METAL BOXES AND CHESTS

Write for FREE book, including complete information.

Waterloo
VALVE SPRING COMPRESSOR CO.
WATERLOO, IOWA

For more details circle NED-442 M7 on enclosed inquiry slip

THE SAFEST BLOWGUN YOU CAN BUY

No one who has been on the receiving end of a faceful of waste cuttings will deny that compressed air blowguns can be dangerous. Now, when working surfaces must be cleared of waste, chips and dust, SAF-T-AIR provides a clean sweep in seconds, with built-in protection. Operators are always shielded by a whirling screen of high velocity air, as particles are whirled down and out by SAF-T-AIR's exclusive cyclonic action. Waste won't rise more than an inch above a surface when simple instructions are followed.

AND SAF-T-AIR IS BUILT TO LAST.

CORROSION-RESISTANT, inside and out, for dependable service in spite of moisture in air-lines.

OPERATES AT FROM 30 TO 100 P.S.I. with positive, full on to full off air control furnished by hand size trigger.

WON'T CLOG. Extra large orifices pass rubber particles that jam other blowguns.

Eyes and Lungs are Priceless.

SAF-T-AIR Costs Only $6.95

extension nozzle for deep holes and crevices..... $.60

Available at your local supplier or order direct from

E. V. NIELSEN INC.
575 HOPE ST., STAMFORD, CONN.
P. O. BOX 353, GLENBROOK STA.

For more details circle NED-443 M7 on enclosed inquiry slip

NEW CLARKE

WET-DRY VACUUM CLEANERS

- clean everything from floor to ceiling
- do the job quickly, easily, efficiently
- and slash maintenance costs!

DIFFERENT SIZES TO FIT EVERYONE'S NEEDS

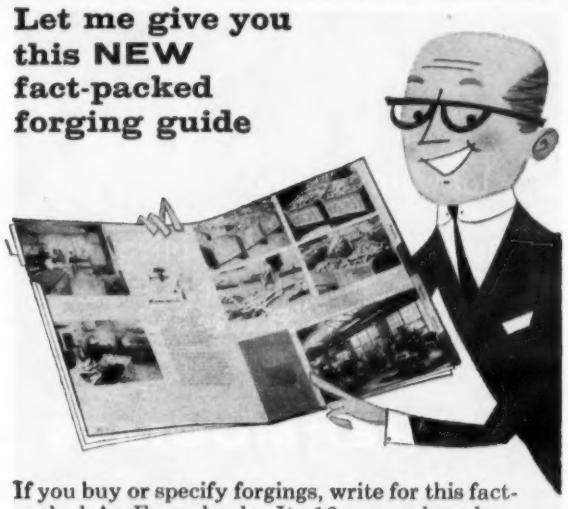
WRITE FOR FREE BROCHURE showing the complete line and the many new efficiency features

Clarke SANDING MACHINE COMPANY
2212 Clay Ave., Muskegon, Mich.

Authorized Sales Representatives and Service Branches in Principal Cities
Distributed in Canada: G. H. Wood & Co., Ltd., P.O. Box 34, Toronto 14, Ont.

▲ For more details circle NED-444 M7 on enclosed inquiry slip ▲

Let me give you this NEW fact-packed forging guide



If you buy or specify forgings, write for this fact-packed AmForge book. Its 16 pages show how your company can benefit from better AmForge research, engineering and control. You'll see that all this adds up to the kind of "service" you need for production quality and economy. Either circle the number on the magazine service card or write AmForge, Dept. NED12157 N. Wacker Dr., Chicago 9, Illinois.

AMFORGE DIVISION — American Brake Shoe Company

▲ For more details circle NED-445 M7 on enclosed inquiry slip ▲

DOCK SHELTERS ELIMINATE THESE HAZARDS

RAIN SNOW COLD

- Damaged merchandise, unsafe dock conditions, and lost man hours due to illness . . . that's what rain, snow, sleet, and cold can do to your unprotected rail and truck docks. The direct results to you are increased merchandise claims . . . higher costs . . . LOWER PROFITS. Now you can . . .

Get Automatic Dock Protection In Seconds With CAR-DOX

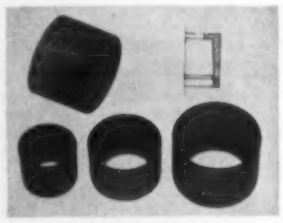
All-weather dock protector controls temperature, speeds loading, unloading. Heavy-duty industrial fabric over heavy galvanized steel frame. Custom-built to fit any size rail, truck dock. Operates automatically for protection in seconds.

WRITE for free catalog samples of fabric.

FROMMELT INDUSTRIES
DUBUQUE, IOWA
A Name To Remember In Safety Products

▲ For more details circle NED-446 M7 on enclosed inquiry slip ▲

PIPE THREAD PROTECTORS
open and closed end types in colors



Molded virgin polyethylene pipe thread protectors have an interior surface tapered at the same angle as the thread for full length thread contact. This prevents accidental cap removal and provides the heaviest protection at the first thread. Open or closed end styles are available in various colors to indicate size. Free samples are available from **Protector Products, Inc.**, Dept. NED, 2144 W. 15th St., Cleveland 13, Ohio.

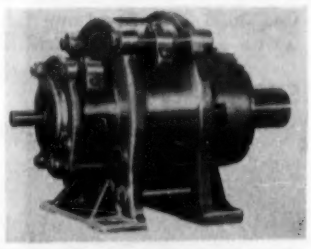
▲ For more details circle NED-447 M7 on enclosed inquiry slip ▲

SAFETY BOOT
keeps feet warm and dry

Workers wearing the Iron Age Sta-Dri 8-in. steel toe safety boot are assured of warm and dry feet in the worst weather. Not only is boot completely insulated against freezing temperatures, but upper leather is Sylflex tanned to prevent water penetration. All stitching holes are sealed with a waterproofing compound. Made by **H. Childs & Co.**, Iron Age Safety Shoe Div., Dept. WW, 1205 Madison Ave., Pittsburgh 12, Pa.

▲ For more details circle NED-448 M7 on enclosed inquiry slip ▲

SPEED REDUCERS
design achieves savings in weight



Principle incorporated in the design of these gear speed reducers allows a small gear reducer to be directly attached to a much larger one. Thus, large unit has ample capacity to carry heavy output shock loads, whereas, smaller input reducer achieves the high speed to balance the overall design. Weight saved is as high as 30 per cent. Easy assembly and disassembly make possible fast change-over to the stack system where weight and bulkiness are factors. Seven standard reducers cover a power range of 28 to 18,219 hp at 1600 rpm. Made by **Crichton Co.**, Dept. N, 1006 U. S. National Bank Bldg., Johnstown, Pa.

▲ For more details circle NED-449 M7 on enclosed inquiry slip ▲

The BECO Super Lift LEVER DOLLY

- Why Pay More!
- Guaranteed
- Stronger
- Safer

- For immediate shipment, wire phone, or pin this ad to your letterhead and mail to:

BECO - Bettendorf, Iowa

Four Models • Metal or Rubber Wheels

▲ For more details circle NED-450 M7 on enclosed inquiry slip ▲

Whatever You Need in WIRE SHAPES and FORMS ...ask SOMMER!

Ask Sommer first for whatever you need in precision wire parts or products. We have complete equipment to handle your job from start to finish.

We offer finest facilities for automatic fabrication, flattening and punching, threading, spot and butt welding.

Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome and mill finishes —in both barrel and fully automatic equipment.

We make our own tools, saving time and money for you.

Tell us your needs. Send sample, blueprint or drawing. We will submit recommendations and quotations promptly.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

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. . . to increase boiler efficiency and lower fuel cost than . . . BROOKS' FIRE-SCALE AND SOOT DISINTEGRATOR Formula 806

- Non-injurious to boiler metal
- Non-explosive
- Prevents soot, carbon and fire-scale
- Cleans fire side of boiler flues, fire brick, chimney and smoke stack
- Increases boiler efficiency, combustion and evaporation. Reduces soot, carbon and scale accumulations to ash, which is carried away with the draft. • More heat per ton of coal

BROOKS Chemicals, Incorporated
PLANTS
3304 East 87th Street, CLEVELAND 27, OHIO — 461 Cumberland Avenue, HAMILTON, ONTARIO
OFFICES IN PRINCIPAL INDUSTRIAL CITIES
SINCE 1876

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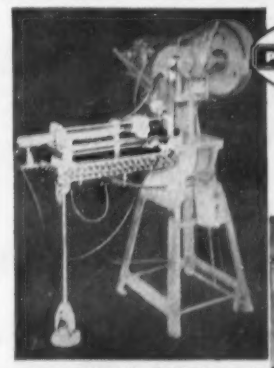
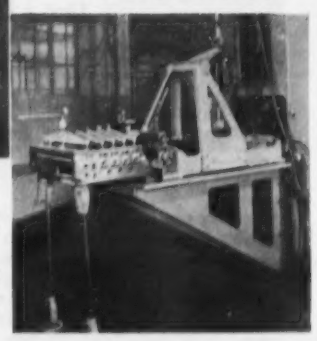


US PRODUCTS

IMPROVE YOUR PRESSROOM PRODUCTION



Above: ASF-12 U. S. Air Operated Slide Feed. On light work requiring long feed this type of feed permits use of presses much smaller than would ordinarily be required.

Right: SF-24-24 U. S. Slide Feed equipped with Plain Straightener. Capacity for material up to 24" wide.

Gain all the advantages from the use of coil stock in your press room by arranging your presses with automatic equipment. The illustrations show two of the many units included in the line of U. S. Automatic Press Room Equipment designed to help you reduce costs and improve production. Every operation eliminated will increase your profit potential and place you in a more favorable position in today's competitive market.

Interested? Write for Bulletin 80-N

U. S. TOOL COMPANY, Inc.
Ampere (East Orange) New Jersey

▲ For more details circle NED-453 M7 on enclosed inquiry slip ▲

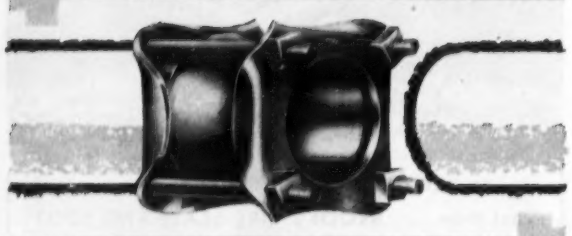
SERVING INDUSTRY FOR 76 YEARS

Send Specifications for an estimate. Dept. 11

THE C.O. JELLIFF MANUFACTURING CORP.
Southport • Connecticut • USA

For more details circle NED-454 M7 on enclosed inquiry slip

Join Plain-End Pipe



WITHOUT THREADING

Ideal for joining pipe on pumps, compressors, engines, tank lines, cooling systems—in fact, wherever small piping is used. The quickest, easiest, most economical way to join plain-end pipes permanently is with Dresser Style 38 Couplings. Fast? . . . a 4-minute connection! And a wrench is the only tool you need. These couplings absorb expansion-contraction stresses without leakage . . . for years of rugged, dependable service. Sizes from 3/8" ID through 2" OD. Write today for FREE catalog.

DRESSER® MANUFACTURING DIVISION
30 Fisher Ave., Bradford, Pennsylvania

For more details circle NED-455 M7 on enclosed inquiry slip

ROBINTRONIC
AUTOMATIC LEVEL INDICATOR FOR BULK MATERIALS HANDLING

Single Unit
One probe and complete self-contained electronic control unit.

Dual Unit
Two independently operating probes and single control unit.

This accurate, easily installed electronic unit actuates an audible or visible signal to warn operators when materials vary from the pre-set level. When equipped with a power relay, it can also control the flow of materials by stopping and starting motors and other equipment.

RoBINtronic requires neither adjustment nor lubrication. It is engineered for heavy industrial service and functions with materials of all densities from rock and coal to grain and sand.

Send for free Bulletin 166, Department R, Hewitt-Robins, Stamford, Connecticut.

HEWITT-ROBINS

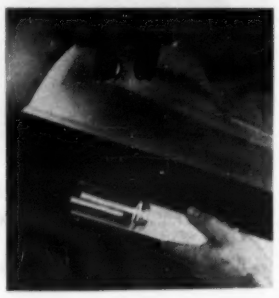
For more details circle NED-456 M7 on enclosed inquiry slip

BALL JOINT
has 32-degree all-direction swing

Heavy duty Type SP ball joint utilizes a spring steel retaining sleeve to keep foreign matter from entering the Lubriplate-filled ball cavity. Neck strength exceeds one and one-half times that of SAE Type C ball joints. All wear members are hardened. Unit is dimensionally interchangeable with all other SAE types of ball joints. Joint has a 32-degree swing in all directions and is offered with a sealing grommet which does not restrict ball stud motion. Both stocked single-head and special single or multiple assemblies can be supplied with heat treated 4140 steel studs. Thread sizes offered are 3/8-in.-24 and 1/2-in.-20. A sample ball joint can be requested. Made by **Superior Ball Joint Corp.**, Dept. NED, Trier Rd., Ft. Wayne, Ind.

For more details circle NED-457 M7 on enclosed inquiry slip

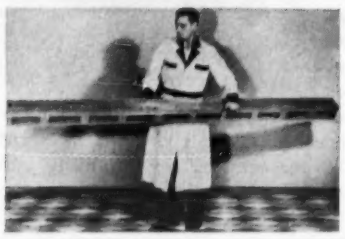
FLUORESCENT LAMP COVERS
minimize breakage, explosion danger



Hazards arising from fluorescent lamp breakage or explosion are minimized by use of clear extruded tubes of Tenite butyrate plastic as covers. The durable, shatter-resistant tubes are installed by slipping them over the lamps and sealing them into place with narrow tape at each end. In case of lamp breakage, they contain broken glass, mercury vapor, or other contaminating materials. Covers are extruded to specifications. Made by **Anchor Plastics Co.**, 3636 36th St., Long Island City 6, N. Y.

For more details circle NED-458 M7 on enclosed inquiry slip

STRAIGHT EDGES
3 to 14-ft magnesium units



Weighing only 40 lb, the pictured 6-ft magnesium straight edge is easily carried by one man. This unit, and others ranging from 3 to 14 ft in length, has accuracies within 0.0002 in. in 6 ft. They are used for leveling and setting up of machine tools and weigh less than one-quarter of semisteel units of similar size. Made by **Challenge Machinery Co.**, Dept. NED, 1943 Thomas St., Grand Haven, Mich.

For more details circle NED-459 M7 on enclosed inquiry slip

Saginaw sets the pace for industrial casters

Saginaw

get all the facts about the casters that are engineered for modern material handling . . .

SAGINAW PRODUCTS CORPORATION
53 SAGINAW 3, MICHIGAN

PLEASE SEND ME YOUR NEW ENGINEERING MANUAL NO. C-56

NAME _____
COMPANY _____
ADDRESS _____

For more details circle NED-460 M7 on enclosed inquiry slip

Series H-Capacities from 2000 to 50,000 Pounds

EUCLID HOISTS

for Dependable Service

These hoists are highly efficient and strictly modern in every detail with oversize anti-friction bearings and heat treated steel parts in combination with a welded frame.

The planetary gearing and mechanical load brake are mounted in oil tight housings. The hoist gearing is assembled in the hoist drum.

This design produces an unusually compact, rugged and accessible hoist readily adapted to various installations and types of control.

Write for Literature

Low headroom, cross mounted plain trolley hoist.

Various other standard and special heavy duty hoists available. Write regarding your requirements.

THE EUCLID CRANE & HOIST COMPANY
1362 CHARDON ROAD • CLEVELAND 17, OHIO

For more details circle NED-461 M7 on enclosed inquiry slip

for warm-air and household heating applications

new STEMCO TYPE D THERMOSTATS

• New Stemco Type D Thermostats give laundry dryers, furnaces and warm-air equipment snap-action control—at a competitive price. Two basic styles available: exposed bimetal for rapid response, enclosed bimetal for dust or lint-laden atmospheres. Each is furnished for two or four-hole mounting, either with spade or screw-type terminals. Listed by the Underwriters Laboratories for operation to 300°F, Stemco Type D Thermostats are rated at 25 amps at 120-240 volts ac non-inductive; 1/2 hp at 120-240 volts ac; 345 volt-amps pilot duty.

If your product uses thermostats, check Stemco Thermostats *first*. You'll get *more* thermostat for your dollar . . . *longer* service-free life for your product . . . *more* satisfied customers.

STEMCO THERMOSTATS

STEVENS manufacturing company, inc.
Lexington and Mansfield, Ohio

For more details circle NED-462 M7 on enclosed inquiry slip

Fast CUTTING-OFF

the Modern Way

TUBING and BAR STOCK

Automatic operation—from loading to final cut-off. Handles tubing up to 8" O.D. Very fast. With special tools, parts being cut off may be formed, grooved, flanged or chamfered in a single operation—at a high rate of speed.

WRITE
New catalog describes all models — gives production figures. Mailed on request.

MODERN MACHINE TOOL CO.
2005 Losey, Jackson, Michigan

For more details circle NED-463 M7 on enclosed inquiry slip

New model 36 SIMPLICITY CONVEYORS serve almost any conveying operation

The new Model 36 Conveyor is designed to meet the needs of manufacturers who do not require the capacity of heavy duty conveyors. Lightweight and compact, the low cost Model 36 is ideal for handling a great variety of light bulk materials with a minimum of maintenance.

The Model 36 makes provisions for any one of 5 different pan widths, from 4" to 12", and can be supplied in mild steel or (on special order) aluminum or stainless steel; with or without covers.

Stocked in 5' and 10' sections, units can be assembled up to 50' in length using only one drive assembly.

The Model 36 Conveyor is less than 14" in over-all height and requires only ¾ hp to 1½ hp motor (depending on the length of the conveyor).

Write today for more information about the versatile, self-cleaning Model 36 Conveyor.

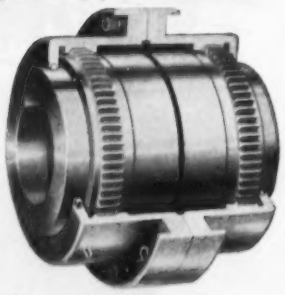
206

Simplicity TRADE MARK REGISTERED
ENGINEERING COMPANY • DURAND 15, MICH.

For more details circle NED-464 M7 on enclosed inquiry slip

LINK-BELT geared flexible couplings

transmit more hp per coupling dollar



Combining compactness and high load capacity, Link-Belt geared flexible couplings provide low-cost, positive power transmission. Size for size, dollar for dollar, they will accommodate larger, more powerful shafts than other flexible couplings.

Precision-cut gear teeth assure reliable performance. Shaft misalignment and end float, reversing loads and high speed are all handled effectively. Popular sizes with finished bores are available "off the shelf". . . packaged and ready for installation.

For complete facts, contact your Link-Belt sales office or distributor. Or write for Folder 2775 to Link-Belt Company, Dept. N.E.D., Prudential Plaza, Chicago 1, Illinois.

LINK-BELT
GEARED FLEXIBLE COUPLINGS

14.567

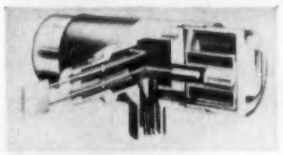
For more details circle NED-465 M7 on enclosed inquiry slip

IMPRINTED GLOVES carry safety slogans, company names

Any slogan, emblem, name, or insignia printed across the cuffs or backs of this line of industrial gloves becomes a constant safety reminder, or boosts quality, reduces pilferage, improves housekeeping, or promotes a company name. Printing service is offered free. It is available with canton flannel, double palm, hot mill, reversible, jersey, nylon blend, leather palm, drivers', welding, and other types of gloves. Made by **Riegel Textile Corp.**, Industrial Glove Div., Conover, N. C.

For more details circle NED-466 M7 on enclosed inquiry slip

LEVEL CONTROL for liquids, solids, and slurries



Extremely accurate high or low point detection, or narrow range proportional control of liquid, solid, and slurry levels is performed by this Model CL-10 Dynatrol level control. Unit generates an electrical control signal that varies with the amount of immersion of the 120-cps vibrating paddle in the medium being sensed. This output signal can be used to control operation of auxiliary electrical equipment. Unit is rated for 3000 psi pressures, operates on 115 v ac, and is explosionproof and corrosion resistant. It mounts in any position, requiring only a ¾-in. NPT pipe opening. Made by **Automation Products, Inc.**, Dept. 14, 3030 Max Roy St., Houston 24, Tex.

For more details circle NED-467 M7 on enclosed inquiry slip

VISE-WORK POSITIONER adjusts in all three planes

Combination of a Wilton light duty vise and PowRarm universal work positioner makes a tool that can be used on benches, pallets, or conveyors for light assembly and other operations. Maximum jaw opening is 2¼ in., and depth and width are 1⅛ and 2¼ in. Jaw faces are replaceable. The Veep PowRarm positioner can be adjusted to any position in all three planes, and locked in place instantly. Body is cadmium plated steel. It will support a work load of 15 lb at 6 in. Made by **Wilton Tool Mfg. Co.**, Dept. NED, 9525 Irving Park Rd., Schiller Park, Ill.

For more details circle NED-468 M7 on enclosed inquiry slip

Where mechanical pressures count!

. . . depend on the

DILLON PRESSURE GAUGE

Checking the force exerted by electrodes of a spot welder is just one of many applications of a DILLON Pressure Gauge. It's a compact instrument that accurately measures compressive loads in *very small spaces* . . . flexes millions of cycles without loss of resiliency . . . sustains 25% accidental overload . . . incorporates jeweled dial indicator for extreme accuracy. Capacities from as low as 0-10 lbs. up to as high as 0-50,000 lbs. Low cost . . . immediate delivery!

Send for free illustrated catalog

W. C. DILLON & CO., Inc.
14578NE Keswick St.,
Van Nuys 1, Calif.
(Suburb of Los Angeles)

For more details circle NED-469 M7 on enclosed inquiry slip

Cut Housekeeping Costs... Cut Machine Wear with

PANGBORN Unit Dust Collectors

Pangborn Dust Control cuts plant housekeeping costs, minimizes machine wear, guards employees' health, aids community relations and reclaims valuable material for salvage. Pangborn Unit Collectors require little floor space, shipped from stock completely assembled.

For details, write PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Maryland. *Mfgrs. of Blast Cleaning & Dust Control Equipment.*

Pangborn CONTROLS DUST

For more details circle NED-470 M7 on enclosed inquiry slip

The Fafnir-Originated Wide Inner Ring Ball Bearing with Self-Locking Collar

FOR STRAIGHT SHAFT applications consider these advantages of the Fafnir Wide Inner Ring Ball Bearing with Self-Locking Collar:

(A) the first successful design for straight shaft application — Fafnir-originated in 1918

(B) unique locking collar avoids shaft scoring

(C) the easiest of all to install — inch dimensions, slip fit, self-locking collar

(D) nearly 40-year-old, industry-wide record of performance

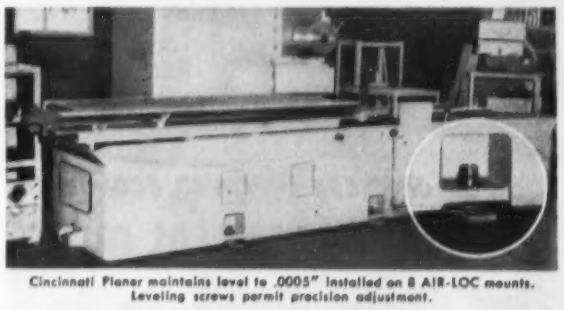
(E) a choice of contact or slinger-type seals

(F) stocked by over 500 authorized distributors

For complete range of sizes, contact your authorized Fafnir Distributor or write The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS

For more details circle NED-471 M7 on enclosed inquiry slip



Cincinnati Planer maintains level to .0005" installed on 8 AIR-LOC mounts. Leveling screws permit precision adjustment.

PERMANENT PRECISION MACHINE INSTALLATION (accurate to .0005") IS NOW POSSIBLE

Air-Loc

Free booklet tells the whole story. Send for your copy and free samples.

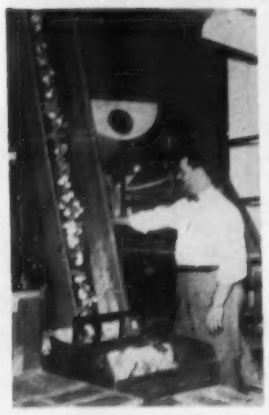
machine mounts give you:

1. Permanent precision leveling of lathes, grinders, etc., maintained to .0005".
2. Complete resistance to oil, water, etc.
3. Low initial cost.
4. Elimination of bolting or cementing machines to floors.
5. Reduced machine vibration and noise — as much as 85%.

AIR-LOC DIVISION
CLARK, CUTLER, McDERMOTT CO., FRANKLIN, MASS.

For more details circle NED-472 M7 on enclosed inquiry slip

Convert belt conveyors to automatic magnetic conveyor-elevators with ERIEZ Magna-Rail units



At this R. T. French Company plant, an Eriez Magna-Rail *automagnetically* elevates and releases caps for mustard jars into a capping machine. Magna-Rail eliminated a hand operation which required elevating them to a platform and emptying them into the hopper.

Want to speed up production, and lower your operating costs? It's easy; convert your ordinary conveyors to magnetic conveyors by installing Eriez Magna-Rail units under your lines. These easy-to-install lifetime, permanent-powered magnets give a safe, positive hold to ferrous items such as nails, bolts, caps, cans, parts, scraps, etc. And they help reduce damaged parts . . . eliminate manual handling . . . prevent loading delays and manpower fatigue. Less floor space is needed for conveying lines and lines can move much faster . . . and as steep as 75 to 80 degrees. Used with other Eriez HI-POWR magnetic equipment, Magna-Rail units can readily be adapted to many phases of automation operations.

ERIEZ HI-POWR MAGNETIC SEPARATORS — Magnetic SEPARATION AUTOMATION VIBRATION Equipment

Eriez does not design, build or sell material handling systems, but serves people *who do* in areas where magnetic equipment should be incorporated. FOR BULLETIN, write ERIEZ Mfg. Co., 80Z Magnet Dr., Erie, Pa.

▲ For more details circle NED-473 M7 on enclosed inquiry slip ▲

DA PRODUCTS SINCE 1910

SPONGE RUBBER

for—
- Pads
- Cushions
- Gaskets
- Mountings, etc.

TELL US YOUR NEEDS. Durkee-Atwood offers prompt sampling service on *uniform cellular structure* sponge rubber. Available in three densities . . . soft and medium (3/32" to 1" thick) and firm 3/32" to 1/8" thick) . . . in standard 36" width.

TELL US YOUR SCHEDULE. Durkee-Atwood offers prompt shipping service to meet production requirements.

DOR-TITE
Sponge rubber stripping for solving countless problems. All sizes.

FREE SAMPLES—Write on your letterhead for samples of DOR-TITE and/or SPONGE RUBBER. Dept. NE-12

DURKEE ATWOOD V-BELTS

DURKEE-ATWOOD CO. MINNEAPOLIS 13, MINN.

▲ For more details circle NED-474 M7 on enclosed inquiry slip ▲

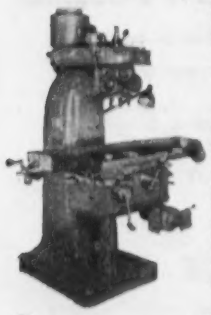
Produce MORE... Produce it BETTER!

ON THESE IMPROVED ECONOMICAL

INDEX VERTICAL MILLS

Super "55" MILL

1½ HP Head or optional 2 HP with continuous duty motor gives 50% on more capacity . . . More rigidity, more accuracy . . . Increased horse power and dynamically balanced Cast Iron Pulleys and Drive System afford improved production capacity . More weight in the column, heavier ribbed column, heavier knee, heavier saddle.



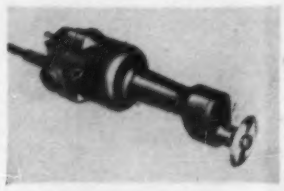
"45" MILL

Unique square design of overarm affords more rigidity, greater accuracy . . . Provides extra range and capacity . . . More power at the cutter. No adjustment required on overarm and head after use . . . No need to re-indicate head after moving overarm . . . Speed range with nine changes makes possible the use of high speed or carbide tipped cutters to best advantage.

INDEX MACHINE CO.
839 N. MECHANIC STREET JACKSON, MICHIGAN

▲ For more details circle NED-475 M7 on enclosed inquiry slip ▲

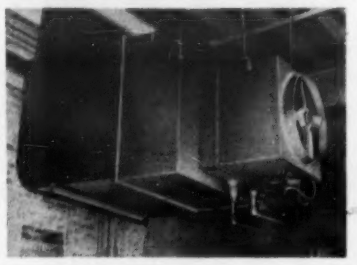
SAFETY SAW cuts many materials by oscillation



Wood, plastics, plaster, rubber, textiles, and soft metals can be cut by the Stryker safety saw which cuts by oscillation rather than rotation. Superficial contact with skin and clothing will not cause damage. Holes can be cut without a starting hole. The 3½-lb tool has a die-cast aluminum housing and is offered with various blades for metal cutting and slitting. Made by **Stryker Mfg. Co.,** 610 Alcott Ave., Kalamazoo, Mich.

▲ For more details circle NED-476 M7 on enclosed inquiry slip ▲

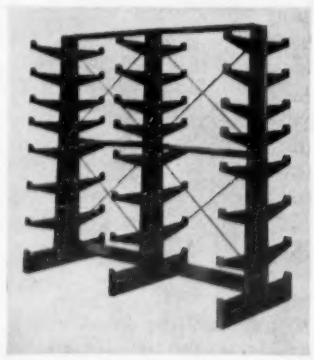
AIR MAKE-UP UNIT eliminates negative pressure



Semivacuum in buildings caused by exhaust fans is offset by this air make-up unit which replaces exhausted air with clean, fresh, preheated air. The air infiltration heat load is thus relieved. System is offered in seven unit arrangements, in six sizes from 24 to 54 in., with air capacities from 4000 to 33,000 cfm. Basic unit consists of fan and coil assembly with the fan mounted in a plenum on the discharge side of the coil. With standard accessories, it can be used as unit heater or ventilator. Cleanable filters and motor-operated shutters which close automatically when the fan stops are built into the wall or roof-mounted unit. Made by **Aerovent Fan Co.,** Piqua 52, Ohio.

▲ For more details circle NED-477 M7 on enclosed inquiry slip ▲

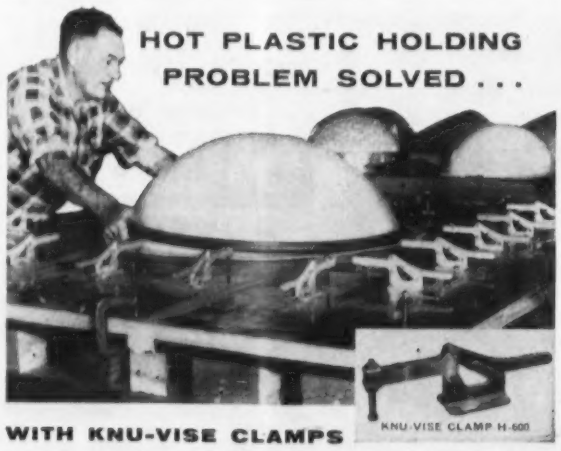
BAR & PIPE RACKS suited for long parts storage



Bars, pipe, rods, posts, or any long parts can be stored efficiently on these racks, available in double - face type for center-of-floor use and single-face design for use against a wall. Horizontal arms adjust on 1½-in. centers with spacing as close as 7½ in. Location of uprights permits loading by hand or crane. Sections are 36 in. wide and 79¼ in. high. Made by **Lyon Metal Products, Inc.,** 324 Clark St., Aurora, Ill.

▲ For more details circle NED-478 M7 on enclosed inquiry slip ▲

HOT PLASTIC HOLDING PROBLEM SOLVED . . .



WITH KNU-VISE CLAMPS

It's a plastic dome skylight . . . produced by "blowing" heat softened plastic sheets under 30 lbs. of air pressure. To hold the hot plastic during the "blowing" process clamping had to be safe, positive, dependable. To handle the various sizes and shapes of skylights produced clamping had to be versatile. And to speed production, clamping had to be fast to grip, quick to release. Knu-Vise clamps provided the answer to all these requirements . . . can answer your holding problems, too. For complete information or engineering assistance write Lapeer today.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS — LAPEER MANUFACTURING CO.
3062 DAVISON ROAD, LAPEER, MICHIGAN
WESTERN DIV.: ART LEWIS PRODUCTION EQUIP. CO. 410 Magnolia Street, Glendale, California
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD. 1131 Pettit Road, Burlington, Ontario

▲ For more details circle NED-479 M7 on enclosed inquiry slip ▲

UNION METAL
Material Handling Equipment

▲ For more details circle NED-480 M7 ▲

ON VOLTAGES UP TO 600 . . . There's . . . BUSS F to fit t

BUSS One-Time Fuses

. . . save users time and money because they can be depended upon to operate as intended under all service conditions.

BUSS Super-Lag Renew

hav vant other fuses be prevent i of service needless blow

BUSS Clear Window Plug Fuses

— one-piece body and "safety" design guarantees protection. They are more convenient too because a blown fuse can be seen even when the light is poor.

FUSETRON Dual-Element

— protect a circuits and and safely less blowing

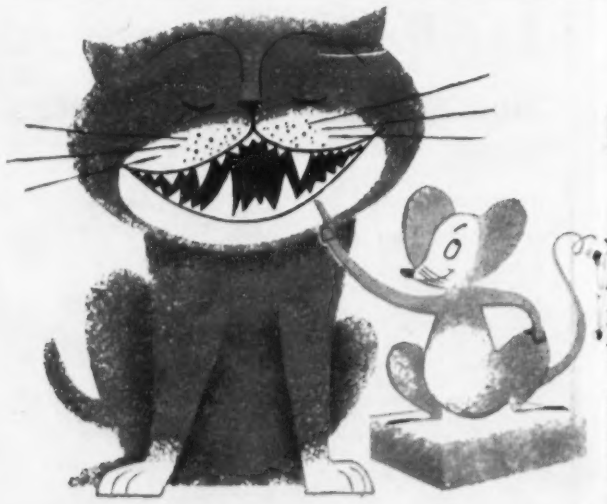
BUSS Hi-Cap Fuses

for loads above 600 and up to 5,000 amps. When coordinated with Fusetron fuses they will not open ahead of the fuse nearest fault.

0 to 14 Ampere BUSS

protect motors and ap voltages up to 125 an burnout. They have t writers' approval for b running and short-circ tion.

▲ For more details circle NED-481 M7 ▲



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EVERY TYPE—E
Ball Bearings
Cylindrical Roller
Spherical Roller
Tapered Roller B

SKF* *Reg. U.S. Pat. Off.

SKF INDUSTRIES, INC., PHILADE

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There's a Safe and Dependable BUSS Fuse or Fusetron Fuse to fit the needs of every user

er-Lag Renewable Fuses
have a big advantage over other renewable fuses because they prevent interruptions of service caused by needless blows.

FUSETRON Dual-Element Fuses
do more than protect against short-circuits—they abolish needless blows—protect motors & equipment against burnout—permit use of proper size switches and panels—protect switches and panels against damage from poor contact heating.

Dual-Element Plug Fuses
— protect against short-circuits and overloads — and safely reduce needless blowing.

BUSS Fustats (have type S base)
— Like Fusetron fuses they stop needless blows — but their type S base prevents anyone from replacing them with penny or substitute, or using a size too large to protect.

Ampere BUSS Fustats
motors and apparatus of up to 125 amp. against They have the Underpproval for both motorand short-circuit protec-

BUSS and FUSETRON Small Dimension Fuses
for protection of TV, Radio, Instruments, Radar, Avionics and Electronic Equipment. A complete line of fuses is available. Made in Dual-Element (slow-blowing), Renewable and One-Time Types in sizes from 1/500 Amp. up . . . plus a companion line of fuse clips, blocks and holders.

BUSSMANN MFG. DIVISION McGraw-Edison Co.
University at Jefferson, St. Louis 7, Mo.

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You'll find the bearings you need
And obtain them with speed
From the place with a complete line
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Ball and roller bearings of every type
Pillow block housings that fit just right
Other accessories are available too
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IC., PHILADELPHIA 32, PA.
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ACTUATOR MOTOR
has rapid starting, stopping

Basically a compact, lightweight alternating current rotary solenoid with a vibrating rate of 120 cps when operated on 60 cycles ac, this high torque actuator motor operates at up to 500° F. The rapid vibratory motion is translated into rotary stepping motion through a one-way clutch. Free speed is less than 300 rpm. Its starting torque is equal to its running torque and it can remain in a stalled condition without damage. Stopping is within 10 milliseconds on 60 cycles and 5 milliseconds on 400 cycle operation. Speed and torque can be adjusted. Available models deliver up to 10 lb-in. at 15 rpm. Made by **Viking Tool & Machine Corp.**, Dept. A, 20 Main St., Belleville 9, N. J.

▲ For more details circle NED-483 M7 on enclosed inquiry slip ▲

SAFETY GRIP WORK GLOVES
plastic dots imbedded in fabric

A secure safety grip is given Mighty-Grip work gloves by imbedding thousands of tiny non-skid plastic dots in the fabric. Each square inch of the glove contains 300 dots permanently molded into the cloth. Fabric is lightweight, tear-resistant, and flexible. It allows rapid evaporation of perspiration. Made by **Riegel Textile Corp.**, Industrial Glove Div., Conover, N. C.

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FLOOR SCRUBBING MACHINES
now have gear head motor unit

Multi-clean 14, 16, 19, 22, and 31-in. floor and scrubbing machines now incorporate a new gear head motor unit. An improved electronic starting switch combined with two capacitors enables the new G-E Form G motor to start fast, reaching working speed almost instantly. Machines run quietly and with minimum power loss because gears spin freely on eight precision ball bearings. Both ends of all shafts have bearings to keep gears and pinion in perfect alignment. Made by **Multi-Clean Products, Inc.**, Dept. NE, 2277 Ford Parkway, St. Paul 16, Minn.

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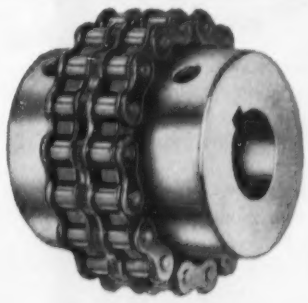
NEW



REX®

Roller Chain Flexible Coupling

Because of its design, you install it in a jiffy. Just line up the sprockets, wrap around the double-strand all-steel chain, insert the single pin and cotter, and you're ready to throw the switch.

Because it's all-steel, you get long life at low cost—and the strength to absorb shock and vibration.

Send today for your copy of the new catalog on Rex Roller Chain Flexible Couplings. It tells how to pick the exact coupling for your job and conditions of service. CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

CHAIN BELT

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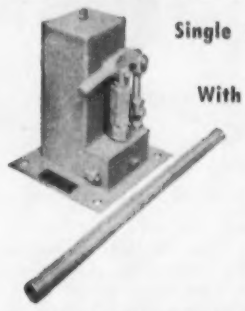
HAND HYDRAULIC PUMP



Single and Double Designs to 20,000 Psi
With or Without Reservoir

160 Cubic Inch Reservoir with 8" x 8" Base Plate. Optional Size Piston: ⅜", ½", ¾", 1". Handle length: 18 inches. Catalog No. 160

We specialize in hand pump units to operate in temperatures from minus 65F to plus 160 F and with any capacity reservoirs required.

The single pump with ½" or ¾" piston now available in stainless steel.

WILLIAM S. PINE
Hydraulic-Hand Pumps for 1001 Uses
1635 E. 22nd St., Los Angeles 11, Calif.

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You Can Hold Temperatures plus or minus 1/2° F.
with existing temperature control

GORDON XACTLINE

All the advantages of such precision temperature control can be yours—with your present pyrometer control—simply by adding a Gordon Xactline to your control circuit. Hundreds of applications prove its reliability.

Xactline is entirely electrical—not mechanical. Operation is sure and quick permitting on-off cycle as short as three seconds. It's automatic, too, no adjustments or coordination are ever needed. And, the installation is easy—you can do it yourself. The compact unit can be placed anywhere that is convenient, flush or wall mounted, and only six connections are required to place the instrument in operation. Why not look into its possibilities for you, today

Ask for Xactline Bulletin. 6208

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2013 Hamilton Avenue, Cleveland 14, Ohio

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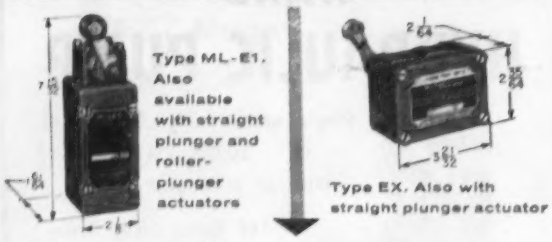
MICRO SWITCH ... FIRST IN PRECISION SWITCHING



These switches are ideal electrical controls in hazardous atmospheres

MICRO SWITCH explosion-proof switches are widely used in such hazardous atmospheres as those found in chemical plants, refineries, flour mills, coal mines and metal processing plants. They are Underwriters' Listed as suitable for use in hazardous locations. These switches make excellent limit, safety and interlock switches to make equipment more automatic and more productive.

(Send for Catalog 83)

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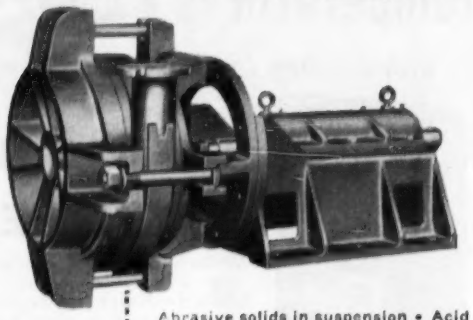
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

For more details circle NED-490 M7 on enclosed inquiry slip

Which of these Materials Needs More Efficient Handling in Your Plant?



The New MORRIS Type RX Slurry Pump

Abrasive solids in suspension • Acid slurries • Caustic liquors • Milk of lime • Soda Ash • Tailings • Slag Ore concentrates • Residue from filters • Coal • Silt Washery Solids Cement and glass sand slurries.

You'll get longer uninterrupted service with the Morris Type RX Slurry Pump:

- No internal studs to cause leakage
- Low pressure stuffing box practically eliminates packing troubles
- Impeller and liner removed without disturbing piping
- Moving parts available in various corrosion-abrasion resistant alloys

Specifications and operation data on request. No cost—no obligation.

MORRIS CENTRIFUGAL PUMPS

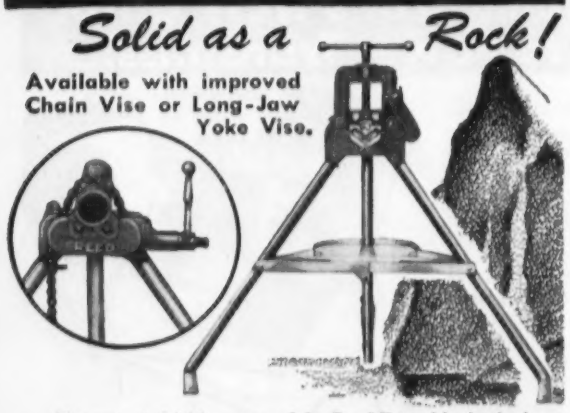
MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Representatives in Principal Cities

For more details circle NED-491 M7 on enclosed inquiry slip

REED PORTABLE Folding-Tray TRIPOD VISES

Solid as a Rock!

Available with improved Chain Vise or Long-Jaw Yoke Vise.



The patented folding tray of the Reed Tripod locks the legs solidly to end spring and recoil. Tripod folds compactly for convenient, one-hand carrying. Sets up or takes down easily.

The improved Chain Vise features a convenient side handle which ends fumbling or skinned knuckles. Capacity from 1/8" to 4" makes it ideal for construction or maintenance work.

Yoke Vise Model features the patented REED long-bearing alloy steel jaws which hold any pipe from 1/8" to 2 1/2" with a slight handle pressure. Special features eliminate lost motion.

Ask your supplier or write for free literature.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA • U. S. A.

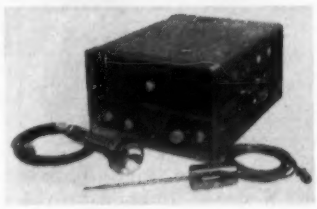
For more details circle NED-492 M7 on enclosed inquiry slip

PLATFORM SCALE
dead tare pointer is adjustable

Handling of commodities where an accurate record of net weight is required is facilitated with this industrial dial platform scale which has an adjustable dead tare pointer. Scale gives both the net weight of container and the gross weight of the commodity filled into the container. Weighing capacities to 300 lb are available. Hardened bearings, tool-steel pivots, and an improved self-locking device which prevents shifting or dropping of levers are features. Air-controlled quick-stop device arrests indicator almost immediately. Made by **Detecto Scales, Inc.**, Dept. NED, 540 Park Ave., Brooklyn 5, N. Y.

For more details circle NED-493 M7 on enclosed inquiry slip

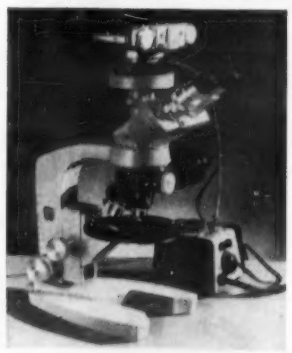
VIBRATION ANALYZER
portable unit finds cause in field



Vibration can be measured, its cause pinpointed, and corrections made without dismantling of machinery when the Model 600 vibration analyzer and portable balancer is used. Any frequency in a complex system can be studied separately and the part causing the predominant vibration located. Vibration amplitude from 0.1 mil to 100 mils, velocity from 0.03 to 30 in. per second, and frequency from 450 to 150,000 cpm can be measured. Components include a velocity type vibration pickup and a stroboscopic lamp. Jacks are provided for an oscilloscope to permit visual study of the vibration waveform and for a strip chart recorder. Made by **International Research & Development Corp.**, Dept. A, 797 Thomas Lane, Columbus, Ohio.

For more details circle NED-494 M7 on enclosed inquiry slip

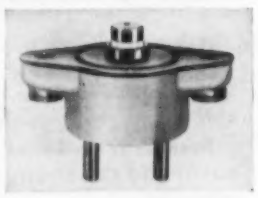
METALLURGICAL MICROSCOPE
has four interchangeable bodies



Micro-Glide circular stage of the Metalstar Series 2200 metallurgical microscope permits rapid, precise specimen positioning under the objective in any horizontal direction. Interchangeable inclined monocular, binocular, trinocular, and special monocular photographic bodies rotate 360 degrees. Accessory 35 mm camera can be mounted on the trinocular or photographic monocular body. Vertical illuminator provides a 6.5-v, 2.75-amp light source which is controllable by aperture and field diaphragms. Double, triple, or quadruple revolving nosepiece, or single nosepiece with quick-change adapter is offered. Made by **American Optical Co.**, Instrument Div., Dept. NED, Sugar & Eggert Rds., Buffalo 15, N. Y.

For more details circle NED-495 M7 on enclosed inquiry slip

CIRCUIT BREAKER
50 to 105 amp ratings for 30 v dc



Improved Klixon C6758 high altitude, manual reset, aircraft circuit breaker is designed to indicate when trip-outs occur. It is offered in ratings from 50 to 105 amp for 30 v dc and many 110-220 v ac circuits. Ground uses include furnishing circuit protection in automotive systems and stationary engine-driven power plants. At 25° C it will continuously carry 115 per cent of nominal rating. High rupture capacity and completely sealed and explosionproof construction are featured. Nominal resetting force is only 12 lb. Made by **Metals & Controls Corp.**, 1500 Forest St., Attleboro, Mass.

For more details circle NED-496 M7 on enclosed inquiry slip

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The next time you require parts of any shape or size up to 10"x 14"x 1/4" thick of any stampable material send your print, sketch or part for an . . .

Analyzed Quotation

Federal TOOL & MFG. CO.
Quality Stampings in Small Quantities
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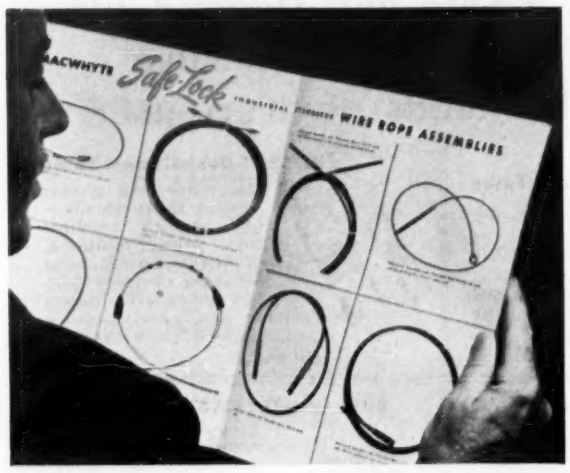

CABLE ASSEMBLIES

for leading equipment, large or small

They are used wherever a tensile load is involved requiring wire rope of large diameter or as small as 1/32" diameter. Bright, Galvanized, Stainless Steel, Monel Metal, or Plastic and Nylon Coated Ropes are available.

Send us your specifications. We will make cable assemblies to your specifications or we will design and recommend the right ones for your machines, precision-made to exacting standards.

Ask for quotations. There's a Macwhyte "Safe-Lock" cable assembly to fit the needs of every equipment manufacturer for a flexible machine part of wire rope with permanently attached swaged fittings.

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MACWHYTE COMPANY

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For more details circle NED-498 M7 on enclosed inquiry slip

Webster DIRECT READING
HYDRAULIC TYPE
FORCE GAUGES

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.
Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

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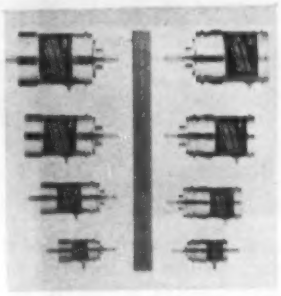
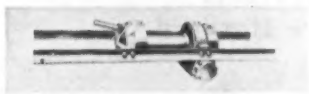
CLUTCH & BRAKE UNITS
1 in. diameter unit added to line



Added to line of subminiature electromagnetic clutch and break units is a 1-in. diameter servo unit which bridges the gap between ¾ in. and 1¼ in. diameter units. New size is available in seven models with output shafts on either or both ends. Together with the ½ in. unit, four sizes are thus available, providing 21 variations with minimum torque value of 32 oz-in. Made by **Autotronics, Inc.**, Dept. 29, Rt. 1, Box 812, Florissant, Mo.

For more details circle NED-502 M7 on enclosed inquiry slip

TRUCK-MOUNTED WINCHES
lift, tow, or pull up to 8000 lb



Levers controlling the LU2-10 and LU2-10F truck-mounted winches can be located in the most convenient place on the winch for behind-the-cab or front-mount control. Both models will fit almost any truck. They weigh 110 lb, have a rated load capacity of 8000 lb, and a gear ratio of 38:1. Full drums will hold 505 ft of ¼-in. cable, 320 ft of 5/16-in. cable, or 225 ft of ⅜-in. cable. Roller assembly for a front end winch keeps the cable on the drum, eliminating jumping when winch positions are changed. Made by **Braden Winch Co.**, Dept. A, Box 547, Broken Arrow, Okla.

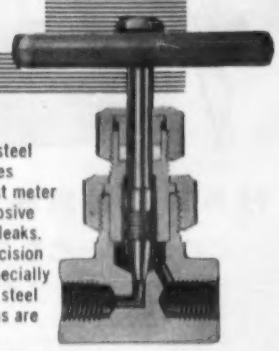
For more details circle NED-503 M7 on enclosed inquiry slip

INDICATOR LIGHT ASSEMBLIES
for computers and other instruments

Easily-mounted numerals, letters, or symbols are provided for analog and digital computers and other instruments by Digicator lights. These miniature indicator lights are available individually, in preassembled strips, or as custom - built assemblies. They can be grouped close together. Round or square lenses, accommodating AN3140 incandescent or neon lamps, are available. Serrated spring metal fingers snap lamp into contact with socket. Lenses can be rotated to position figures. Made by **Hetherington, Inc.**, Dept. NED, Delmar Dr., Folcroft, Pa.

For more details circle NED-504 M7 on enclosed inquiry slip

AMERICAN® needle valves



Teflon-packed, forged steel American® Needle Valves stand up in the toughest meter manifold jobs and other corrosive field services without gland leaks. Stainless or carbon steel precision machined valve bodies are specially suited for welding. Stainless steel centerless-ground valve stems are designed so that the valves can be repacked under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. For pressure to 10,000 psi, upon request, valves are hydrostatically tested and individually inspected. Valves are furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns — screwed or union bonnets.

AMERICAN METER COMPANY
Executive Offices: Philadelphia 16, Penna. Sales Offices In Principal Cities

For more details circle NED-506 M7 on enclosed inquiry slip

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BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spotlighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

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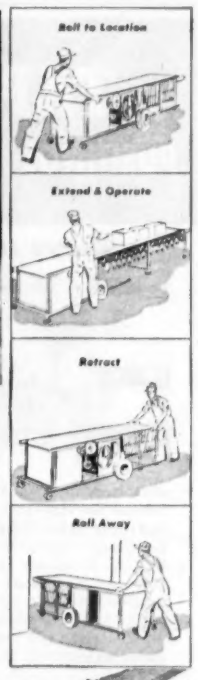
Stretches and retracts to cut loading time



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With its extendable belt carrier, this portable power-belt conveyor easily reaches into confined spaces . . . speeds loading of trucks, trailers, boxcars. Handles a wide range of commodities . . . can be moved and operated by one man. Choice of two models (one-way and two-way extendable) and five sizes up to 46 feet extended length.

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Standard GRAVITY & POWER CONVEYORS

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Less noise!

where you install machinery on

ISOMODE® PADS

Why let noise fatigue a man, rob him of his capacity? With Isomode Pads, you subdue a major noisemaker . . . the vibration transmitted from machines to floor. Pads swallow up vibration and shock . . . noise level drops . . . everybody's happier.

Cut pad to size needed (1 sq. in. per 50 lbs of weight) and install under machine feet. Eliminates bolting or lagging to floor. It's that easy!

An economical, standard package of ten 18 x 18" Isomode Pads mounts 80 tons of machines. Saves on building maintenance too. Try it and convince yourself. Thousands have. Send for details.

MB manufacturing company
A DIVISION OF TEXTRON INC.
1066 State Street, New Haven 11, Connecticut

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BATHEY MFG. CO.
100 S. MILL STREET PLYMOUTH, MICH.

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For "fixed" fastenings or "hard-to-reach" assemblies

USE GRIPCO CLINCH NUTS

WITH THE EXCLUSIVE HEX ON HEX FEATURE

For positive attaching of a threaded medium to thin metals. They are clinched solid for a rigid application, or staked in with a six point staking punch for a floating effect. This takes care of misalignment and creates an easier application of the bolt. Gripco Clinch Nuts can be clinched or staked with hydraulic or air equipment. Full details available — write for samples and data sheet today.

TYPICAL APPLICATIONS

GRIP NUT COMPANY
106 Maple Ave.
South Whitley, Ind.

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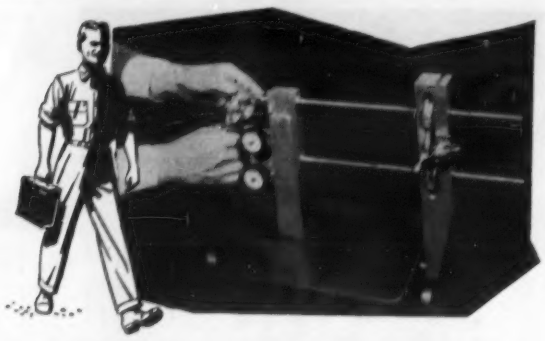


HARDNESS TESTER
compact and exact!

Inspectors simply carry this small, lightweight hardness tester to the work — instead of transporting heavy work pieces to a testing bench. Yet this Riehle portable hardness tester gives Rockwell readings as precise as any bench-mounted tester. Without obligation, let a Riehle representative prove this in your plant on certified calibrated specimens. Then try out on your own materials. Write Dept. NED-1257.

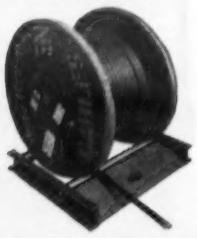
Riehle TESTING MACHINES
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

For more details circle NED-509 M7 on enclosed inquiry slip

SAVE TIME AND MONEY HANDLING CABLE REELS

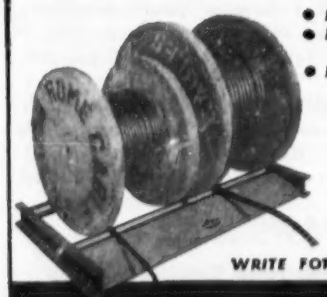
Easy, simple, fast! Minimum loading and unreeling effort. Modernly efficient.

Style A 2,000 lbs. cap. for reels up to 28 in. wide. 46.50 f. o. b. Cincinnati.



- Heavy gauge steel frame
- Slanted front
- Ball bearing adjustable rollers
- No jacks
- Handles any reel diameters
- Positive roller lock for unloading

FOR WIRE, CABLE, ROPE



Style B 4,000 lbs. cap. for 2 reels up to 24 in. wide each or 1 reel up to 48 in. wide. 84.50 f.o.b. Cincinnati.

WRITE FOR DETAILS TODAY

ROLL•A•REEL 4630 Reading Road Cincinnati 29, Ohio

For more details circle NED-510 M7 on enclosed inquiry slip

Left hand spiral, right hand cut. Right hand spiral, right hand cut.

NEW exclusive design!
T-J REAMERS
CUT REPLACEMENT COST MORE THAN HALF!

Exclusive in design . . . the New-type T-J Reamers cut your replacement costs to *less than half!* Only the quickly installed *head* to replace, after buying original shank. Wide range of interchangeable heads from ½" to 2-3/4" inclusive, in 1/16" increments available . . . right or left hand spiral flutes. Tapered hole in head insures concentricity and *new* thread design assures a snug fit on smoothly tapered shank. Quick change of heads saves time. Head and arbor firmly locked together.

T-J TOMKINS-JOHNSON
39 Years Experience
BIRDTOOL · RIV AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

The Tomkins-Johnson Co., Jackson, Michigan

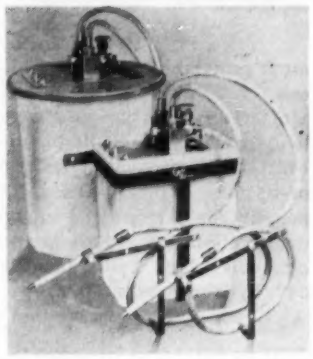
For more details circle NED-511 M7 on enclosed inquiry slip

SELF-DUMPING HOPPER
tilts by gravity for dumping

Force of gravity tilts this forward roll type Roto Hopper, designed to handle hot or cold materials in solid or liquid state. Dumping action is started by releasing trip lever when full hopper is in position over gondola, bin, or container. After load pours out, weight of empty container returns it to original position where it locks automatically. Hopper is built of heavy gage steel plate reinforced at stress points. Capacities of ½ to 3 cu yd are offered. It can be handled by fork or platform truck and can be mounted on casters for mobility. Made by **Borg-Warner Corp.**, Ingersoll Kalamazoo Div., 1910 N. Pitcher St., Kalamazoo, Mich.

For more details circle NED-512 M7 on enclosed inquiry slip

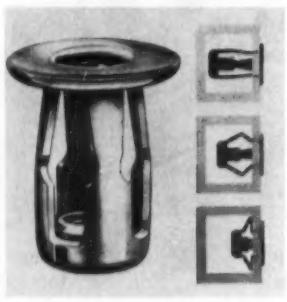
MIST COOLANT SYSTEMS
dual outlets are standard



Dual outlets with nozzles that give a fine, narrow cone spray are incorporated in these 1 and 2½-gal mist coolant systems, made with corrosion-proof molded polyethylene containers. Selector control permits use of one or both outlets and regulates the flow of coolant to the nozzles. Mist acts as a refrigerant to absorb heat and prolong tool life. Application can be to drilling, tapping, milling, sawing, and tool grinding; cutoff machines; some small lathes; and punch press dies. Water, coolants, or oils can be used. Made by **Graymills Corp.**, Dept. C, 3717 N. Lincoln Ave., Chicago 13, Ill.

For more details circle NED-513 M7 on enclosed inquiry slip

BLIND FASTENER
grips material up to ⅜ in. thick

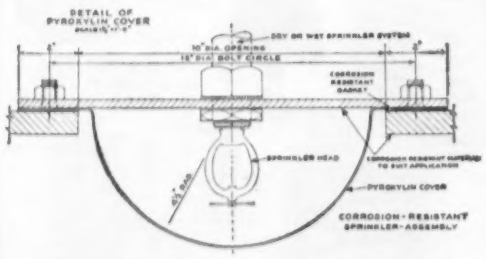


This Jack Nut blind fastener with threads securely grips any smooth, rough, curved, or level material up to ⅜ in. thick. It can be used as a rivet or blind fastener in expansion space as small as ⅜ in. and provides a firm nutplate for attachment of screws. Fasteners do not require special holes, and hole size is not critical. They are available in short and long lengths for respective thicknesses from 0 to 3/16 in. and 0 to ⅜ in. Installation is with screwdriver and any 6-32, 10-24, or ¼-in.-20 screw. Made by **Molly Corp.**, 230 N. Fifth St., Reading 5, Pa.

For more details circle NED-514 M7 on enclosed inquiry slip

FIRE SPRINKLER COVER
protects heads from corrosion

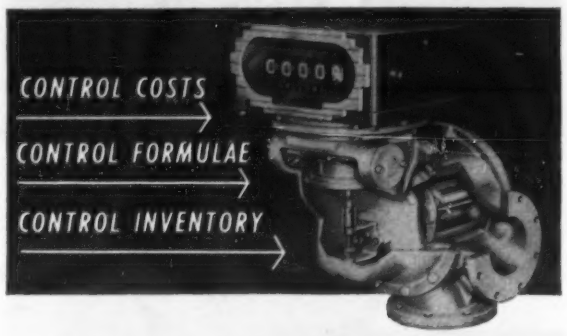
Cylindrical cup-like cover of 1/16-in. pyroxylin plastic protects overhead automatic fire sprinkler heads from corrosion. Easily fastened to the ceiling to



keep out dirt and corrosive elements, the plastic cover will burn away rapidly and completely in the event of fire to render the sprinkler head operative. Cover assembly has a 14-in. diameter and a 4½-in. depth. It has passed Factory Mutual tests but its use should be cleared with the user's insurance company. Made by **Sillcocks-Miller Co.**, Dept. N, 10 W. Parker Ave., Maplewood, N. J.

For more details circle NED-515 M7 on enclosed inquiry slip

Stop Liquid Processing Waste



METER YOUR LIQUIDS AND SAVE!

Want accurate cost controls over liquids used in your plants? Need quality control for your formulations? Are your liquid inventories a problem? Then turn to *Rockwell Industrial Meters.* Get accurate metered records, quick! Made in a wide variety of sizes, types and materials, including *all-stainless steel* meters for corrosive services; automatic shut-off models for batching; remote registration for centralized control. Write for bulletin. Rockwell Manufacturing Company, Pittsburgh 8, Pa. Dept. 112M

ROCKWELL *INDUSTRIAL* METERS

For more details circle NED-516 M7 on enclosed inquiry slip

TAPER-LOCK
BUSHINGS WITH WELD-ON HUBS

NOTHING ELSE LIKE IT!

FOR your sprockets, gears, clutches, motors, impellors — for wheels of all kinds where service conditions are *really rugged*—there is nothing like TAPER-LOCK. This famous patented bushing—supplied for your use with matching TAPER-LOCK Weld-on Hub — gives you an easy-mounting, true-running unit that locks to the shaft with firmness equivalent to a shrunk-on fit. *WRITE* for special bulletin A-420A with specifications and entire range of shaft sizes (1/2" to 10").

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

For more details circle NED-517 M7 on enclosed inquiry slip

Seen Towmotor's new advances?

- New functional body styling
- New pace-setting comfort features
- New "tight-spot" maneuverability
- New centralized easy-reach controls
- New positive-response hydraulic lift
- New Towmotor-improved Power Steering

Some of the industry's major improvements in low-cost mass handling are in the new Towmotor fork lift trucks. Write for Towmotor bulletin #SP-23 describing all 12 new features.

TOWMOTOR -GERLINGER

TOWMOTOR CORPORATION • Cleveland 10, Ohio

For more details circle NED-518 M7 on enclosed inquiry slip

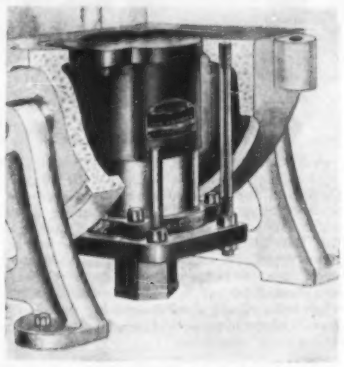
DIE CUSHIONS

FOR ALL DEEP DRAWING OPERATIONS

Furnished complete ready to install. Operates perfectly on all shop air lines.

ACCURATE ADJUSTABLE WORKING PRESSURES ASSURED
QUICK SETUP SAVES TIME
PRESS BED OR BOLSTER PLATE MOUNTING
17 MODELS AVAILABLE FROM STOCK, SIZES 3" THRU 16"

DIE CUSHIONS AVAILABLE FOR ANY POWER PRESS
ENGINEERING SERVICE AT YOUR DISPOSAL
ALL DIE CUSHIONS INSTALLED ON TRIAL BASIS



Full Universal Pneumatic Die Cushion

DAYTON ROGERS Manufacturing Company

MINNEAPOLIS 7E, MINNESOTA

For more details circle NED-519 M7 on enclosed inquiry slip

PROVED BEST

NATIONAL MODEL 400

Over 125,000 National Sanders are in daily use in industry . . . proving their efficiency, reliability, and durability. There are reasons for this popularity: (1) They are lightweight . . . only 4 lbs, (2) Have 25 sq. in. of abrasive area, (3) Powerful . . . will not stall, (4) Vibrationless . . . easy to operate, (5) 3/16" orbital stroke removes paint rapidly. Write for complete catalog of National Sanders.

NATIONAL NS SANDERS

NATIONAL AIR SANDER, INC.
2818 AUBURN ST. ROCKFORD, ILL.

For more details circle NED-520 M7 on enclosed inquiry slip

BEVERLY *Pneumatic* THROATLESS SHEAR

CAPACITY
3/16 MILD STEEL
10 GA.
STAINLESS

FASTER, EASIER CUTTING *to any Shape!*

- Compactly built for maximum visibility and efficiency
- Operates on 35 to 150 PSI air pressure
- Adjustable power and return stroke length and speed

Beverly Pneumatic Shears combine all the advantages of Beverly Throatless Shears with fast, effortless cutting action through air cylinder operation. Air operation speeds work, permits accurate cutting to a pattern or template, as operator can concentrate on guiding work through the shear. Flow control valves permit precise adjustment of stroke speed; adjustable actuating arm controls stroke length. Foot Switch permits operator to use both hands on the work piece. Operates on 110V. 60 cycles AC and 35 to 150 PSI air pressure.

See your nearby Beverly Distributor
Write for catalog sheet and complete details.

BEVERLY SHEAR MANUFACTURING CO.
3016 W. 111th STREET • CHICAGO 43, ILLINOIS

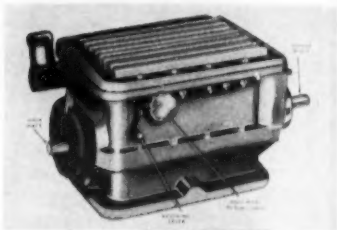
For more details circle NED-521 M7 on enclosed inquiry slip

CLOTHING & APRONS resist chemicals and abrasion

Lightweight, flexible North - PVC polyvinyl chloride-impregnated clothing and aprons have a fabric base, coated on both sides with plastic. Material resists chemicals and solvents of virtually every type, as well as abrasion. Seams are sewn with chemically resistant synthetic thread, then electronically welded for strength and liquid impermeability. Plastic buttons make garments nonconductive. Plastic coating is difficult to puncture, and will not crack, peel, or become tacky. Available are coveralls, jackets, coats, pants, leggings, sleeves, headgear, and bib and waist type aprons in several colors and sizes, in light and heavy duty materials. Made by **Jomac Inc.**, Dept. 12, 6128 N. Woodstock St., Philadelphia 38, Pa.

For more details circle NED-522 M7 on enclosed inquiry slip

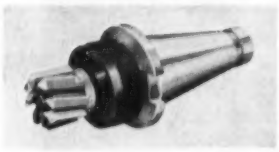
HYDRAULIC SPEED REDUCER 0-750 rpm speed is reversible



Output speed of this reversible hydraulic speed reducer is from 0 to 750 rpm in either direction. Used on lathe heads, reamer drives, conveyors, printing presses, small tractors, pumps, blowers, milling machines, and test benches, reducer can be driven with any 1/4 to 1½-hp motor to obtain variable speed in either direction of rotation. Reversing is independent of speed control. Unit consists of variable displacement hydraulic pump driving a fixed displacement hydraulic motor. It is self-contained in sealed 2-qt capacity aluminum oil reservoir. Relief valve is preset at 100 lb-in. of torque and can be reset up to 180 lb-in. Shafts are 5/8 in. diameter with standard keyways. Made by **Roberts Electric Co.**, 849 W. Grand, Chicago 22, Ill.

For more details circle NED-523 M7 on enclosed inquiry slip

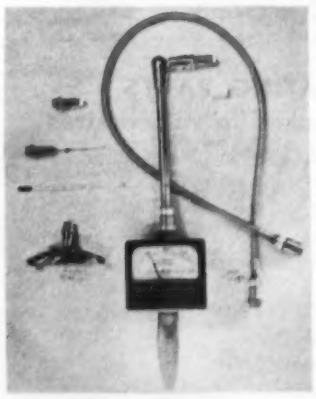
QUICK-CHANGE TOOL HOLDER for die sinking and similar work



This Kwik-Switch heavy duty, quick-change holder is particularly suited for heavy cutting in die sinking and similar operations. Interchangeable with company's Universal holders, the three-piece device provides a positive square drive, back-up screw stop, and depth adjustment. A collet-type adapter, designed for presetting, is furnished. Made by **Universal Engineering Co.**, Dept. B, Frankenmuth, Mich.

For more details circle NED-524 M7 on enclosed inquiry slip

SURFACE PYROMETER measures up to 1500° F



By selecting the proper pick - up element, model 1331 surface pyrometer measures temperature up to 1500° F on flat or curved surfaces, platens, injection molding heads, plastic molding dies, revolving drums, subsurface liquids, or low melting soft metals and plastics. Swivel head allows operator to measure heat at any angle or deflection and still keep dial of instrument visible. Instrument can be converted to cable type by inserting special cable between instrument and rigid pick-up arm. It is supplied in carrying case with ambient temperature calibrating thermometer and choice of any one pickup element. Made by **Pyrometer Service Co.**, 383 River Rd., North Arlington, N. J.

For more details circle NED-525 M7 on enclosed inquiry slip

Mail Cart!

Put efficiency in your mail operation! This double-deck polished aluminum mail cart by Chesley lets your mail department categorize incoming mail for quick, error-free delivery. Lower basket for out-going mail. Both baskets are removable.

Write for free brochure — or, better still — order today!

MODEL LS-2 (Legal Size) 26⅓" L x 19" W x 29⅓" H
(File Folders Not Included)
Shipping Weight — 33 lbs. $45.00 F.O.B. DETROIT

CHESLEY INDUSTRIES
Write Dept. H 24777 Telegraph Road DETROIT 19, MICHIGAN

For more details circle NED-526 M7 on enclosed inquiry slip

Measure

Costs by Pennies

Count

Savings in Dollars

Buy DURO-TEST Lamps

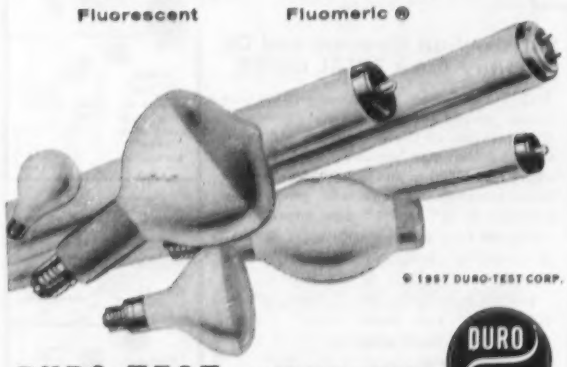
Yes, the few extra pennies you put into longer-burning Duro-Test lamps repay you in lighting dollars saved. Duro-Test lamp users buy fewer replacements and spend less for maintenance.

Here's the reason why. Duro-Test lamps far outlast conventional lamps because they are more carefully built of stronger, finer components and they're specifically designed for heavy industrial and commercial service.

Start Saving Dollars Now

The Duro-Test lighting expert in your area will be glad to show you how you can benefit by the unequalled performance and dollar-saving durability of Duro-Test lamps. Write for lighting catalog today.

Incandescent Mercury Vapor
Fluorescent Fluomeric ®



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DURO-TEST CORPORATION
NORTH BERGEN • NEW JERSEY
WAREHOUSED IN PRINCIPAL CITIES FOR PROMPT SHIPMENT
DURO TEST

DURO-TEST ELECTRIC LTD • TORONTO • ONTARIO

For more details circle NED-527 M7 on enclosed inquiry slip

New midget tools for high speed precision grinding

AIRETOOL
PNEUMATIC DIE GRINDERS

Perform the most intricate portable grinding jobs quicker and easier with these lightweight, easy-to-hold, air-powered grinders. They operate with a wide range of grinding and filing tools . . . have plenty of speed and power for fast, smooth cutting of hardened steels.

Airetool Midget Grinders are vibration free . . . quiet running . . . won't heat up. Ball bearing thrust and spray lubrication assures long trouble-free service.

Send for details on Airetool Pneumatic Tools: Midget Grinders, Horizontal and Vertical Grinders, Drills, Screwdrivers and Nutrunners.

Model 200
60,000 R.P.M.
⅝" dia. x 4⅞" long
Wt. 4 oz.

Model 300 ——→
38,000 R.P.M.
1⅛" dia. x 5¾" long
Wt. 12 oz.

Over 27 years experience in pneumatic motor equipment.

Airetool offices and representatives in principal cities of U.S.A., Canada, Mexico, Puerto Rico, South America, England, Europe, Italy, Hawaii, Japan.
Canadian Plant: 37 Spalding Drive Brantford, Ontario
European Plant: Vlaardingen, The Netherlands

AIRETOOL
MANUFACTURING COMPANY
SPRINGFIELD, OHIO

▲ For more details circle NED-528 M7 on enclosed inquiry slip ▲

NEW Rockwood "316" Stainless Steel Ball Valve

• *Resists Wear Longer . . .*
Stays Leakproof

PLUS The Outstanding Features of Other Rockwood Ball Valves — easy operation, low pressure sealing, stem repacking without removal from the line. Full, round flow every time.

PLUS Variations — many different seat types. Available with remote air-operation in wanted sizes ⅜" to 2". Write for complete specifications in the folder NEW ROCKWOOD "316" STAINLESS STEEL BALL VALVE.

ROCKWOOD SPRINKLER COMPANY
2287 Harlow Street, Worcester 5, Mass.

▲ For more details circle NED-529 M7 on enclosed inquiry slip ▲

Satisfaction Guaranteed Or Money Back TRIAL OFFER

TRU-O-SEAL Fittings are guaranteed to seal pipe thread connections permanently against all oils, practically all known chemicals and gases; to seal under high pressures or vacuum; to withstand —280° to plus 500° F.; to eliminate "overtightening" damage and pipe dope. Available in ⅛" to 2½" pipe thread sizes.

$10.00 Trial Offer No. 1: eight ⅛", ten ¼", eight ⅜", ten ½" pipe thread TRU-O-SEAL Fittings.

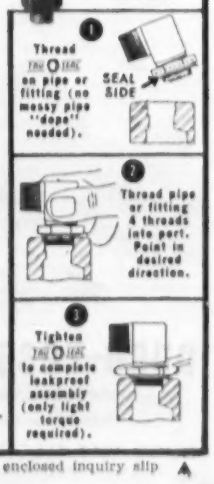
$10.00 Trial Offer No. 2: eight ½", ten ¾", four 1" pipe thread TRU-O-SEAL Fittings.

Send order to

TRU-O-SEAL DIVISION
Flick-Reedy Corp

2023 N. Hawthorne, Melrose Park, Ill.

"Miller Fluid Power" is also a Div. of Flick-Reedy Corp.



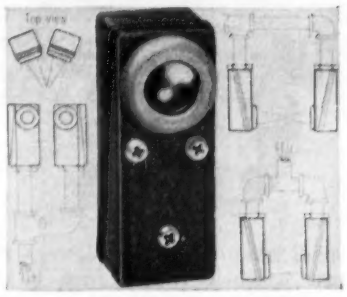
▲ For more details circle NED-530 M7 on enclosed inquiry slip ▲

DIE TRANSFER TABLE
handles loads up to 2500 lb

Ability to roll and turn, lift and lower, and push and pull loads up to 2500 lb is built into the Big Beulah portable elevating table. A screw and nut-impelled ram which travels the length of the reinforced 22 x 34-in. tap plate slides the load off the table. A 14-in. ram extension can push the load into a press or onto a shelf. Vertical movement of top plate is 25 in., from 35 to 60 in. above the floor. Rapid movement for light loads is provided. Table rides on 9½-in. metal wheels and 4-in. metal casters. Conveyor rollers and lifting mechanism can be locked. Floor lock and two turnbuckle hooks prevent table movement during loading and unloading. Made by **Hamilton Tool Co.**, 901 Hanover St., Hamilton, Ohio.

▲ For more details circle NED-531 M7 on enclosed inquiry slip ▲

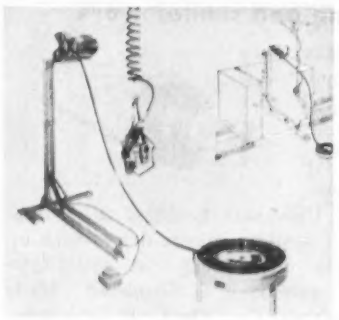
PHOTOELECTRIC UNITS
small phototube and light source



These phototube and light source heads fit into limited or hard-to-reach spaces because of their 1 7/16 x 1⅜ x 3⅝-in. size. Both of the photoelectric elements are housed in gasket-sealed cast aluminum cases which screw on ½-in. pipe or conduit for both support and wiring. Heads are also offered with 6-ft flexible armored cables. Phototube head can actuate a range of photoelectric controls as well as photoelectric timing controls. Straight, fixed, light beam is rated from 30 ft-c at 5 ft to 2 ft-c at 14 ft. Fixed-focus pin-point light beam is also available. Made by **Autotron, Inc.**, Box 722-D, Danville, Ill.

▲ For more details circle NED-532 M7 on enclosed inquiry slip ▲

POWER STRAP FEEDER
feeds steel strapping vertically



Up to 240 ft of steel strapping per minute can be fed vertically around packages, skids, crates, or bundles by the Model PSF-1 power strap feeder. When used with power-operated strapping tools, it enables one man to apply up to 200 straps per hour. Wide range of package shapes and sizes can be handled by the device which also feeds straps through openings in skid runners. Feeder can be mounted on a conveyor or set up as a separate station. Strapping from 5/16 x 0.012 in. to ¾ x 0.035 in. can be handled. Made by **Signode Steel Strapping Co.**, Dept. NE, 2600 N. Western Ave., Chicago 47, Ill.

▲ For more details circle NED-533 M7 on enclosed inquiry slip ▲

THREADED INSULATING PARTS
bolts, nuts stocked in varied sizes

Quickly sawed to the required length, 4-ft lengths of Permali threaded insulating rod and matching nuts are available from stock. The high strength and impact resistant material also has high dielectric strength. Threaded rods are offered with square and hexagon regular and jam nuts in 5/16, ⅜, ½, ⅝, and ¾-in. sizes. Packages of 100 ft of rod and 200 regular and 200 jam nuts are available in each size. Other quantities and sizes or custom-made threaded parts are also available. Made by **Permali, Inc.**, 5500 Bridgeport St., Mt. Pleasant, Pa.

▲ For more details circle NED-534 M7 on enclosed inquiry slip ▲

New Aerovent type LS belted and direct-driven 4-blade industrial fans

Designed for high-volume air movement against resistances ¾" S.P. Featuring new, wider 4-blade "Macheta" Airfoil propellers, "LS" fans are available in ring, duct or square panel types. Standard construction features mean lower initial costs, with more efficient operation. Aerovent "LS" fans are the practical solution to all standard air-moving problems. Special motors, propellers, coatings available for corrosive conditions.

Write for Bulletin 750-A (Belt-Driven) or 775 (Direct-Driven)

"ls" duct fans

Designed for use in all standard duct systems. More efficient performance at lower speeds, against static pressures to ⅝" S. P. Sizes 24" to 48".

Aerovent FAN CO. INC.
Ash and Blake Sts. Piqua, Ohio

▲ For more details circle NED-535 M7 on enclosed inquiry slip ▲

DI-ACRO NOTCHER
Speeds Production, Saves Extra Operations on Chassis Work

"I use our Di-Acro Notcher for practically everything," says V. Johnson of Maico Co., Inc., Minneapolis manufacturer of hearing testing equipment. "This machine speeds production—*provides one operation notching* of cold rolled steel, brass, phosphorous bronze and aluminum up to 16 gauge thick. It's also used for notching fish paper, sponge rubber, 1/16" linen Bakelite and other circuit insulating materials that go into chassis for audio testing equipment."

The 4 ton pressure of this machine has the capacity to cut a 90° notch as large as 6"x6" in 16 gauge steel *in one operation.* Adjustable gauges mounted on work table are standard. Hardened and ground triangular ram assures years of precision. A clean cut, free from rough edges and burrs, is possible because blade clearance can be easily set. For high speed production, a power model is available.

Di-Acro Notcher is used on the open end of this .064" aluminum chassis at Maico Co., Inc.

Consult the Yellow Pages of your phone book for the name of your nearest Di-Acro distributor or write us for catalog describing this and other Di-Acro machines

O'NEIL-IRWIN MFG. CO.
354 8TH AVENUE • LAKE CITY, MINN.

▲ For more details circle NED-536 M7 on enclosed inquiry slip ▲

AUTOMATIC SPRAY GUN

Model WDB

for controlled application of lubricants, compounds, liquid adhesives, and coatings

DeVilbiss WDB gun accurately applies liquids on all types of materials, surfaces with coverage ranging from full wet coat to light, fine mist. Instant-acting pneumatic on-and-off feature permits automatic, semi-automatic, or manual remote control. Compact size (6¼" x 2½" x 3¼") and convenient mounting bracket make installation flexible for variety of applications. All moving parts enclosed. Write for details.

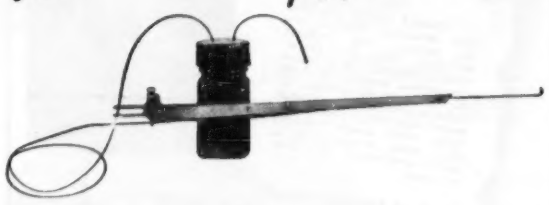
DEVILBISS

THE DEVILBISS COMPANY
Toledo 1, Ohio
Barrie, Ontario • London, England
Branch Offices in Principal Cities

For more details circle NED-537 M7 on enclosed inquiry slip

ARCCO CANNON *NEVER-DRY* PEN

Writes for Months



REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

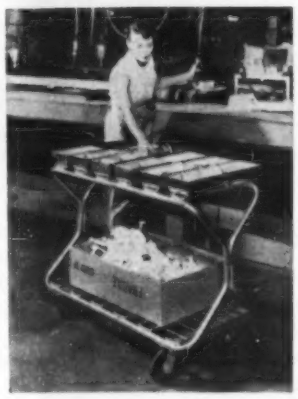
Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

For more details circle NED-538 M7 on enclosed inquiry slip

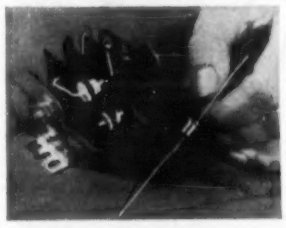
PARTS CART
double-decker has no corner posts



Double-deck Model PCX-400 parts cart has working surface large enough to hold a variety of parts containers. Absence of corner posts facilitates loading and handling. Top and bottom corners are well rounded for safety. Constructed of nickel-plated tubular steel, carts are fitted with four ball-bearing swivel casters for maneuverability. Made by **McClintock Mfg. Co.**, 802 W. Whittier Blvd., Whittier 1, Calif.

For more details circle NED-540 M7 on enclosed inquiry slip

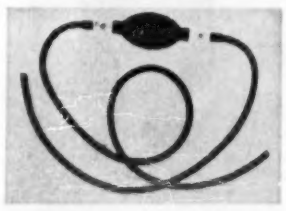
SILICON POWER RECTIFIER
provides 1.6 amp at up to 800 v dc



Hermetically sealed 305, 320, and 321 silicon power rectifier diodes provide direct forward currents up to 1.6 amp with maximum peak inverse voltage up to 800 v. Maximum forward voltage drop at 1 amp and 125° C case temperature is 1.3 v. Peak leakage current at the same case heat will not exceed 1.5 ma. Maximum operating frequency is 50 kc. Operating junction temperature is 175° C. The 305, 320, and 321 units have, respectively, a stud base for through mounting, a pigtail base, and a plain base without pigtail. All cells are available in complete rectifier bridge assemblies. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

For more details circle NED-541 M7 on enclosed inquiry slip

SIPHON-PUMP
safely handles concentrated acids

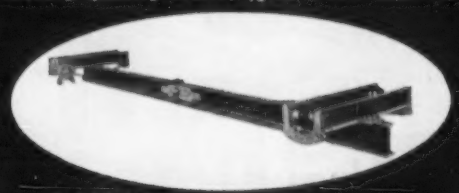


Hand-operated Model P self-starting siphon-pump for handling concentrated acids features check valves made of DuPont Alathon. This compound is unaffected by concentrated hydrochloric, sulfuric, and hydrofluoric acids at room temperature as well as alcohols, gasoline, and most industrial solvents. Hand bulb and tubing are neoprene. The siphon-pump measures 7 ft long. Made by **General Scientific Equipment Co.**, 7518 Limekiln Pike, Philadelphia 50, Pa.

For more details circle NED-542 M7 on enclosed inquiry slip

BUILD IT YOURSELF

Save time, shipping and labor. Build this factory quality crane, ½ to 5 ton capacity



CONCO UNDERHUNG AND TOP RUNNING HAND GEARED CRANE ASSEMBLIES

BUILD IT YOURSELF:
Packages include instructions, complete parts except locally available I-beam and cross shaft. Equip with Conco chain or electric hoist. Write for Bulletins 2200 and 2300 and name of local distributor.

CRANES HOISTS CONCO

CONCO UNDERHUNG CRANE ASSEMBLY

CONCO ENGINEERING WORKS
Division of
H. D. Conkey & Company
57 Grove St., Mendota, Ill.

AFFILIATES:
Conco Engineering Works - Domestic Heating Equipment
Conco Building Products, Inc. - Brick, Tile, Stone

For more details circle NED-543 M7 on enclosed inquiry slip

a balanced line
QUALITY... ECONOMY

S.S.White

PLASTIC PLUGS AND CAPS

No juggling between quality and economy when you select from S. S. WHITE's balanced line of Plastic Plugs and Caps. They are *all* quality . . . and all designed to give maximum protection at the right price!

Take our line of *Rigid Acetate* Plugs and Caps. These are our finest — slightly higher in price than our Flexible Vinyl line — but strong, tough, not brittle, and will not shred. Acetate will stand a wide temperature range . . . is impervious to petroleum base oils and greases.

And to give you really low-cost protection, we make an economical line of *Flexible Vinyl*. Its non-waxy, rubber-like surface gives you a "non-slip grip" every time. It will not shred . . . is normally unaffected by oils, greases, gasoline . . . effectively seals in refrigerants, hydraulic fluids and other liquids.

There's a quality . . . *priced-right* S. S. WHITE Plug or Cap for every need and every budget. We'll be glad to send you samples — plain or threaded — in the sizes you need. And be sure to write for your reference copy of our comprehensive new Bulletin P-5703.

S.S.White

S. S. WHITE INDUSTRIAL DIVISION
Dept. 7P, 10 East 40th Street
New York 16, N. Y.

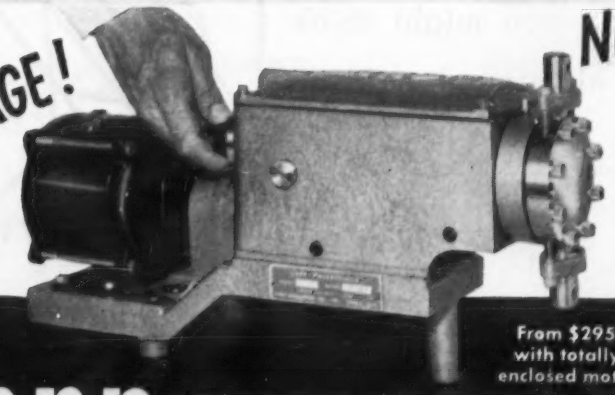
Western Office:
1839 West Pico Blvd.
Los Angeles 6, Calif.

For more details circle NED-544 M7 on enclosed inquiry slip

Lapp "MICROFLO" PULSAFEEDER
Pumps problem liquids at micro-flow rates

Now, for laboratory, pilot plant or industrial application . . . a controlled-volume chemical pump that's adjustable while idle or operating. All liquid handling parts of corrosion resistant materials . . . no stuffing box or other leak-likely seal. Other models for higher flow, higher pressures.
Model LS-10, capacity 2300 ML per hr. at 1000 psig.
Model LS-20, capacity 1040 ML per hr. at 2000 psig.

NO LEAKAGE!



NO STUFFING BOX!

From $295 with totally enclosed motor

WRITE *for Bulletin 500 which gives complete specifications. Lapp Insulator Co., Inc., Process Equipment Div., 3300 Poplar St., LeRoy, N. Y.*

Lapp PULSAFEEDER
CONTROLLED-VOLUME CHEMICAL PUMP

For more details circle NED-539 M7 on enclosed inquiry slip

Six machines protected from dust by Torit for **$666.15**

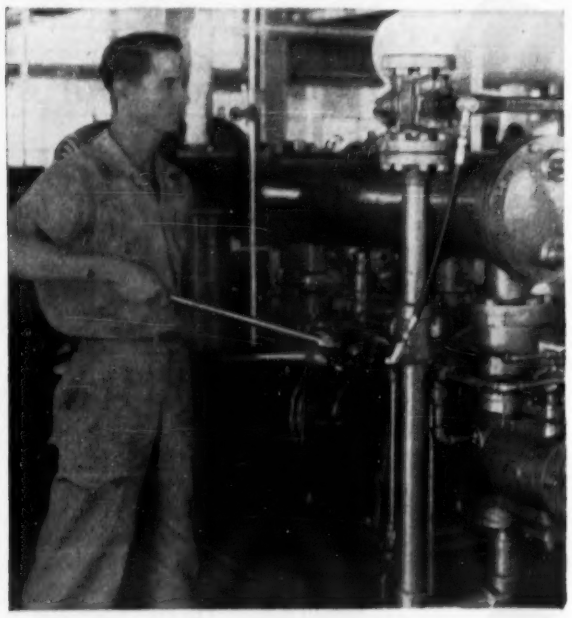
This Torit Dust Collector, Model 219FM, complete with accessories, was installed by the Mohr Lino Saw Co., Skokie, Ill., to protect 3 belt sanders and 3 other grinders (2 grinders hidden from view) from destructive dust—at a total cost of just $666.15!

After one year's operation, Mohr Lino Saw says this about their *low-cost* Torit installation: "The Torit installation has kept our shop *cleaner*, our operators *happy*, and *protected vital* machinery."

You too can achieve greater machine protection and cleaner working conditions by trapping dangerous or valuable dust *at its source* with a completely *self contained* and *portable* Torit Dust Collector. For full details write to:

TORIT MANUFACTURING CO.
Dept. 205; 311 Walnut Street, St. Paul 2, Minn.

▲ For more details circle NED-545 M7 on enclosed inquiry slip ▲



REPLACE VALVE SEATS IN SECONDS

Save Money, Down Time and Maintenance

The man in the photo above is actually replacing seating surfaces on a Rockwell-Nordstrom valve while the valve *is in service*. Usually, when a valve seat wears slightly it means down time for repairs and replacement. Rockwell-Nordstrom lubricated plug valves eliminate this cost because the seating surface between plug and body is a film of *pressurized lubricant*. Each time the valve is lubricated, the seat renews itself. And unlike ordinary metal seats, the tough plastic lubricant resists cutting or corrosion even on "hard to handle" services. Lubricant saves further by reducing wear for longer valve life at lower cost.

Available in a *complete* line of sizes and pressures. Rockwell-Nordstrom valves cost no more to buy—often less—than ordinary valves. Write for complete details. Rockwell Manufacturing Company, Pittsburgh 8, Pa. Canadian Valve Licensee: Peacock Brothers Limited.

ROCKWELL-Nordstrom VALVES
Lubricant Sealed For Positive Shut-Off

▲ For more details circle NED-546 M7 on enclosed inquiry slip ▲

PVC PLASTIC STRAINER
rated 150 psi at 75° F

Corrosion-resistant rigid polyvinyl chloride Y-strainer is intended for sediment removal in plastic pipe lines involving alkalies, acids, inorganic salt solutions, and other corrosive materials. Strainer is made of PVC sheet with 1/32-in. holes. Open area of perforated screen is about twice the cross sectional area of the corresponding Schedule 80 pipe, assuring adequate flow. Screen is welded to strainer cap. Strainer is rated 150 psi at 75° F and 75 psi at 150° F. It is offered in five sizes from ½ to 2 in. with threaded, solvent-weld socket-type, or flanged ends. Made by **Walworth Co.**, Dept. NED, 60 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-547 M7 on enclosed inquiry slip ▲

PORTABLE HEATER
delivers 250,000 Btu hourly

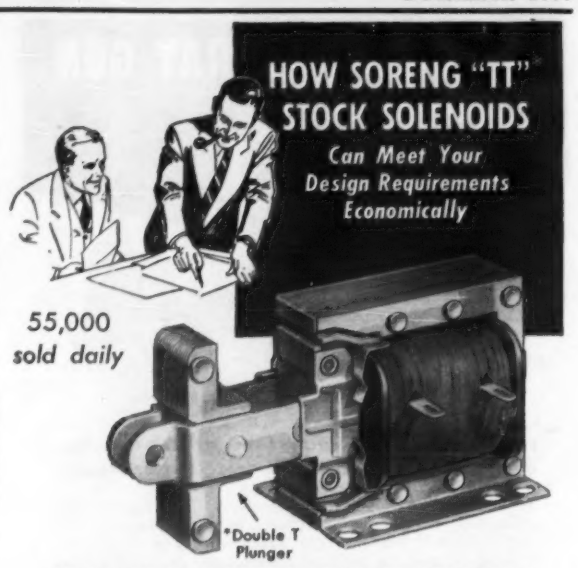
Portable Model B-250 heater is for thawing and drying materials, providing spot heat outside, or for heating any enclosure. It delivers 250,000 Btu hourly and will operate for 16 hours on a tank of kerosene or fuel oil. It is free from dangerous fumes and will not leave an oil deposit on plastered or painted surfaces. Equipped with a thermostat, it operates on any 115-v ac outlet and is easily moved by one man. Made by **Master Vibrator Co.**, Dept. NED, 1752 Stanley Ave., Dayton 1, Ohio.

▲ For more details circle NED-548 M7 on enclosed inquiry slip ▲

FLANGE-MOUNTED PUMP
has three discharge locations

Discharges on the right and left sides of the housing and one discharge optionally tapped through the inlet port of the mounting flange are a feature of the Model 5S-4520 outside flange-mounted pump. The discharges can be used individually, in pairs, or simultaneously. Pump is offered with a 1/10 hp, 3450 rpm or 1725 rpm motor, and with a ¼-hp, 3450-rpm motor. Capacities up to 30 gpm and heads up to 27 ft are offered. Heights are 11 7/16 in. and 13 3/16 in. Made by **Ruthman Machinery Co.**, 1810 Reading Rd., Cincinnati 2, Ohio.

▲ For more details circle NED-549 M7 on enclosed inquiry slip ▲



All the exclusive custom features that have made Soreng a-c solenoids the most widely used in the world are embodied in the design of our stock line. One of our four basic types will probably fit your application . . . at the same time, you benefit from production run prices made possible through standardization.

For complete information write for Bulletin CF-124. It contains drawings, power curves, applications and other technical data.

CONTROLS COMPANY OF AMERICA
SORENG DIVISION
9577 Soreng Avenue • Schiller Park, Ill.

▲ For more details circle NED-551 M7 on enclosed inquiry slip ▲

Inducto Furnaces...

HIGHER PRODUCTION — LOWER COST

INDUCTOTHERM CORP.
412 Illinois Ave. • Delanco, N. J.

▲ For more details circle NED-552 M7 on enclosed inquiry slip ▲

HERE THEY ARE!

ALCO-LITE All Steel Ladder-Stands that handle so easily you might think they were made of aluminum!

A gentle push will guide an Alco-Lite Steel Ladder-Stand anywhere you want it!

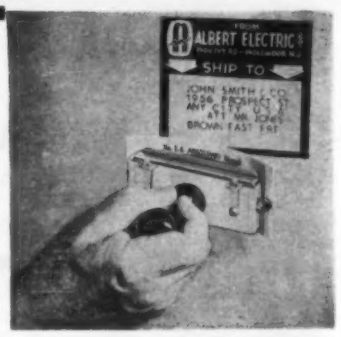
FREE CATALOG shows you why!

1 to 12 Step Models Available

Aluminum Ladder Company
WORTHINGTON PENNSYLVANIA

▲ For more details circle NED-550 M7 on enclosed inquiry slip ▲

The Quick . . Accurate Way to Address Shipping Cartons



PRINT DIRECT

The MULTISTAMP Hand Stamp Stencil Duplicator prints shipping data direct on cartons, boxes, packages, and eliminates double operation of preparing labels and then pasting them on the containers. Handy as a rubber stamp . . . fully portable, non-mechanical, no moving parts to wear. Get 1,000 or more clear sharp impressions from one typewritten or handwritten inexpensive stencil without re-inking. In photo above, shipper's name, address and "Ship To" label frame were preprinted by carton manufacturer.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

Also for addressing shipping tags and labels . . . prints postcards, menus, forms, bulletins. 8 complete outfits: $9.50 to $99.50, including supplies (fob. factory). At office or shipping room supply dealers.

OVER 35 YEARS MULTISTAMP STENCIL DUPLICATOR

MANUFACTURED ONLY BY THE MULTISTAMP CO. NORFOLK, VIRGINIA

For more details circle NED-553 M7 on enclosed inquiry slip

versatility plus with

S-N 4-1 REVERSING TRANSMISSIONS

Applications unlimited. Two models of this new type of reversing transmission offer the design engineer limitless possibilities in the design or redesign of agricultural, materials handling, machine tool or construction equipment. Combining forward—neutral—reverse—speed reduction in a single compact unit featuring smooth reversing, *under full load* if needed. These units are ideal for use with any equipment requiring power transmission up to 28 HP.

SPECIFICATIONS

MODEL 5108
Reduction ratio—3.75:1 both directions
Power transmission—up to 8 HP
Maximum input torque—320 pound inches
Maximum input speed—2000 RPM
Dimensions—9 1/16" long, 10" wide, 10 3/8" high

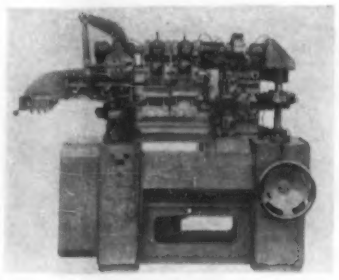
MODEL 5201
Reduction ratio—3.16:1 both directions
Power transmission—up to 28 HP
Maximum input torque—1000 pound inches
Maximum input speed—2000 RPM
Dimensions—11 1/2" long, 12 1/2" wide, 14 1/2" high

For complete recommendations on specific applications write or call our engineering department. Literature gladly sent upon request.

SNOW-NABSTEDT
Transmission Engineers
FOR HALF A CENTURY
"MAKERS OF JOE'S GEARS"
THE SNOW-NABSTEDT GEAR CORP. HAMDEN, CONN.

For more details circle NED-554 M7 on enclosed inquiry slip

SPRING MAKING MACHINE
vertical type has four slides



Good visibility and accessibility to all parts, particularly in the tooling area, are features of the Model W-11A Springmaker. The Verti-Slide wire and strip vertical four-slide machine can handle wire diameters from 0.015 to 0.072 in. Wire length per spring is from 0 to 42 in., coil range is 3/32 to 1-9/16 in. OD, and production is from 18 to 180 springs per minute. Extra wire feed gears which feed from 0 to 63 in. of 0.015 to 0.062-in. wire or 0 to 83 in. of 0.015 to 0.047-in. wire are offered, as are special wire feeds of 0 to 7½, 13, and 24 in. Torsion attachment is recessed into a pocket in the front housing and the clutch is inside the machine. Most operations, including adjustment of feed stroke, cams, presses, and cut-off, are made from the front of the machine. Made by **Torrington Mfg. Co.**, 60 Franklin St., Torrington, Conn.

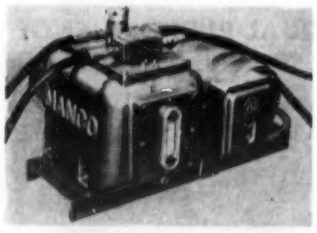
For more details circle NED-555 M7 on enclosed inquiry slip

AIR LINE OILER
shuts off air when oil is used up

Lack of oil, a common cause of air tool damage, is prevented by the Model LO380 automatic line oiler which shuts off the air supply when the oil is used up. The lightweight unit is easily adjusted and can be refilled while in use. Oil is fed as soon as the air tool is used. Its aluminum body weighs 9 lb, holds 1 pt of oil, and can be mounted on compressors or in air lines. Top capacity is 300 cfm. Made by **Westinghouse Air Brake Co.**, LeRoi Div., Milwaukee 1, Wis.

For more details circle NED-556 M7 on enclosed inquiry slip

HYDRAULIC POWER UNIT
operates high pressure equipment



Requirements varying from 4.1 gpm at 5000 psi to 3 gpm delivery at 8800 psi are met by the Model HA-1 hydraulic power and pump unit. Designed for operating high pressure hydraulic equipment, the belt-driven, six-piston pump has an externally located valve for pressure adjustment in the field. An internal safety relief valve is set for 9000 psi. The 5-hp, 220/440 v, 60-cycle, 1800-rpm motor has a thermal overload protector. Gas engine power is also available, as is an auto selector valve which permits operation of two or more hydraulic units from one power unit. Made by **Manco Mfg. Co.**, Washington St., Bradley, Ill.

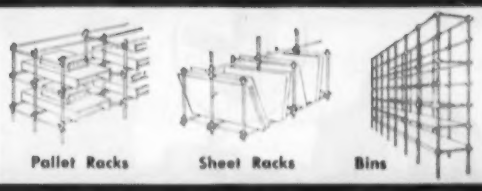
For more details circle NED-557 M7 on enclosed inquiry slip

LIMIT SWITCH
plug-in unit is easily replaced

Terminal block enclosure containing wiring connections and a switch enclosure which includes all moving mechanical and electrical parts comprise the easily replaced Plug-In Limit switch. Switch enclosure is fitted with four current-carrying spring plugs, integrally molded into the basic switching element. Terminal block has four corresponding receptacles. Actuating arms may be preset. Replacement of the switching unit is by loosening two screws, pulling off the switch, plugging in the replacement, and tightening the screws. Made by **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-558 M7 on enclosed inquiry slip

Rack Up Big Savings with NU-RAIL Slip-On Fittings and I.P.S. Size Pipe



No Threading! No Welding!

NU-RAIL high-tensile aluminum fittings *slip on* the pipe, and the unique offset design permits as many as three pipes to pass each other without cutting.

Any man in your maintenance or warehouse departments can build sturdy racks with only a hex key and a hacksaw, using new or used pipe in standard I.P.S. pipe sizes. Completely flexible . . . adjust to meet changing requirements. 100% pipe salvage.

The Hollaender Manufacturing Company
Dept. F-10, 3841 Spring Grove, Cincinnati 23, Ohio

For more details circle NED-559 M7 on enclosed inquiry slip

Tough Tape
for heavy-duty packaging!

PRESSURE-SENSITIVE SHUFORD'S SHURTAPE® RP-25 MEETS FEDERAL SPECIFICATION PPP-T-76

Cartons full of heavy parts or assemblies stay together when they're sealed with rope-paper backed Shuford's SHURTAPE RP-25.

Use it to seal V-Board and W-Board fibre containers . . . use it on individual parts to protect surfaces . . . or for banding and bundling.

Heavy-duty Shuford's SHURTAPE RP-25 has excellent resistance to water and abrasion, heavy adhesion and clean strip . . . serves many industrial purposes!

Write for complete information

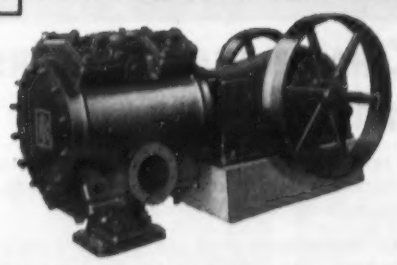
Clothes Lines • Twines
Pressure-sensitive Paper Tapes
Sash Cords • Weather Stripping
Cotton & Rayon Yarns • Extruded Plastics

Shuford Mills, Inc. SINCE 1880 HICKORY, N. C.

3818 World's Largest Manufacturer of Cotton Cordage

For more details circle NED-560 M7 on enclosed inquiry slip

DRY VACUUM PUMPS



VACUUMS UP TO 29.5" Hg are possible with heavy-duty ES dry vacuum pumps. Units are now in use on nearly every job where a dry vacuum pump can be applied. Equipped with efficient I-R Channel Valves. Available with V-belt motor drive or with an additional cylinder in tandem for steam drive.

Eight standard sizes from 180 to 2800 cfm piston displacement single-stage, vacuums to 28.5"; or 90 to 1400 cfm two-stage, vacuums to 29.5" (referred to a 30" barometer). Send for descriptive folder.

Ingersoll-Rand Dept. PV
1-604 11 Broadway, New York 4, N.Y.

OTHER VACUUM PUMPS FROM 6 TO 51,000 CFM PISTON DISPLACEMENT

For more details circle NED-561 M7 on enclosed inquiry slip

PUMP LIQUIDS GASES SLURRIES

WITHOUT CONTAMINATION OR CORROSION

Wavelike Motion of Steel Fingers Forces Material Through Tubing

0.2 cc per minute to 4.5 g.p.m.
Prices $60.00 to $550.00
depending on size and accessories

Write for Descriptive Literature

SIGMAMOTOR, INC.
33 North Main St. • Middleport, N.Y.

▲ For more details circle NED-562 M7 on enclosed inquiry slip ▲

If You want to PRODUCE MORE

. . . develop *Your* PARTS FEEDING with VFC BASIC EQUIPMENT

MOTIVATION . . . . . AUTOMATION

VFC HAS A CHARTED COURSE THAT WILL HELP YOU!

The real impelling force at VFC, aside from developing better parts feeding equipment, is how to help industry produce more.

When one or more parts are scheduled for a rendezvous, you need parts feeders and VFC's technical knowledge of how they can be adapted to your product or production line. No matter what direction your business takes, use VFC's parts feeding know-how as the motivation to automation.

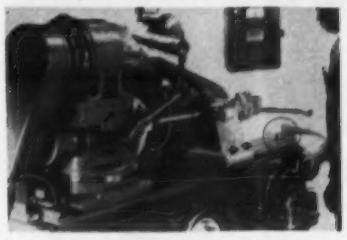
TECHNIQUES FOR . . .
SIZES • SHAPES • MATERIALS

This tremendous storehouse of parts feeding information is available to you—make use of it and produce more—automatically. If you have a parts feeding job pending, the chances are the answer is in your VFC Sales Engineers Data Book, ask about it.

VIBRATORY FEEDER COMPANY
32nd and BRANDES STS., ERIE, PA. • PH 4-6320
Division of Automation Devices, Inc.

▲ For more details circle NED-563 M7 on enclosed inquiry slip ▲

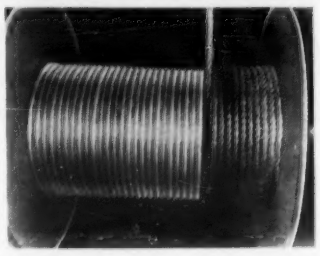
WORK POSITIONING GAGE
for any length grinder swivel table



Used on any universal grinder, the Sure-Set work positioning gage positions the swivel table so that operator can produce work of desired straightness, cylindrical or tapered, without charts, tables, or other aids. Unit incorporates two enclosed electronic gage heads which locate on the grinder at the ends of the table and work into an amplifier through a selector switch. Computing circuitry corrects for difference between work length and table length. Operator takes one set of manual measurements after the trial cut, adjusts the table according to meter indication on amplifier panel, then finish grinds. Swivel table can be any length. Made by **Federal Products Corp.**, 1118NRl Eddy St., Providence 1, R. I.

▲ For more details circle NED-564 M7 on enclosed inquiry slip ▲

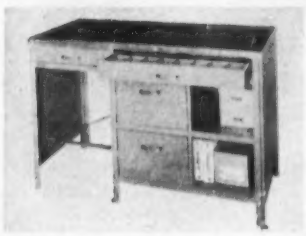
HOIST SPOOLING
counterbalance type holds 30 layers



Wire line wear is minimized and cutting in, pinching, and squeezing are eliminated by design of counterbalance type of hoist spooling. Each of two crossover areas located 180 degrees apart move only one-half of the line diameter. Two parallel sections between them are offset one-half pitch from the other. This system counterbalances the line action and allows an unlimited amount of line to be spooled in a uniform pyramid pattern. Thirty layers of line can be spooled at high or low speeds and with extra heavy loads. Spooling stops wire line whip and minimizes drum vibration. It can be installed on the job without dismantling equipment. Made by **LeBus International Engineers,** Longview, Tex.

▲ For more details circle NED-565 M7 on enclosed inquiry slip ▲

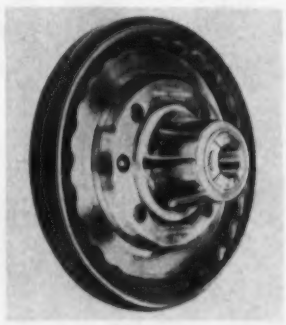
DUAL-PURPOSE SHOP DESK
holds tools, supplies, and drawings



This combination workbench and desk facilitates repair, test, light assembly, and other jobs that require both paper work and mechanical operations. Under its metal-edge 54 x 25-in. Masonite top are a narrow drawer for papers and a wider drawer subdivided into 24 compartments for tools and parts. Two large file drawers hold blueprints, drawings, and instruction manuals. Two open storage shelves will hold bulky fixtures and tools. Drawers can be inserted from the back to reverse the kneehole position. Adjustable glides facilitate leveling. Made by **Neubauer Mfg. Co.,** Dept. NED, 521 Lowry Ave. N. E., Minneapolis 18, Minn.

▲ For more details circle NED-566 M7 on enclosed inquiry slip ▲

COLLET CHUCKS
up lathe production 25-40 per cent



Greater precision and production for all types of tool room lathes, engine lathes, and grinders result with use of Hardinge-Sjogren speed collet chucks supplied in hand wheel diameters of 7¾ or 10 in. Chuck accurately holds any bar that can be passed through the spindle without a draw tube and adapter or sleeve inside the spindle hole. Collet tension from light to heavy holding power is possible without use of keys or wrenches. Chuck uses low cost steel collets and is said to increase lathe output 25 to 40 per cent. Made by **Hardinge Brothers, Inc.,** Dept. N, 1420 College Ave., Elmira, N. Y.

▲ For more details circle NED-567 M7 on enclosed inquiry slip ▲

"TRANSPORTATION" BULLETIN

Tells you and shows you how you can move mountains . . . of dry, pulverized, crushed and granular materials to and from, up, over, around, and under your plant to storage; from storage to processing points.

It's called Fuller Equipment for the Process Industries. Write for Bulletin G-3.

Fuller
. . . pioneers in harnessing AIR

FULLER COMPANY G-130 3433
154 Bridge St., Catasauqua, Pa.
SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Chicago • San Francisco • Los Angeles • Seattle • Kansas City • Birmingham

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Do the job in fewer man-hours! Drive your reamers the modern *low-cost* way—with a bench-mounted Greaves Reamer Driver.

Put a Greaves Reamer Driver on the job. Send today for complete information.

CAPACITY—¼" to 1½" reamers.

FOOT SWITCH OPERATION—leaves both hands free for holding the work.

MOTOR—1725 rpm.—110 V AC—wired for light socket connection.

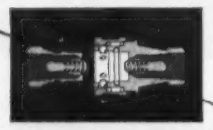
4-SPEED OPERATION—20, 32, 56 and 85 rpm. Easy changeover.

4-JAW CHUCK—universal machine tool chuck—(3-jaw chuck optional).

COMPACT, COMPLETE—12¾" wide, 21¼" long, 9¾" high.

THE GREAVES MACHINE TOOL CO.
2302 EASTERN AVENUE CINCINNATI 2, OHIO

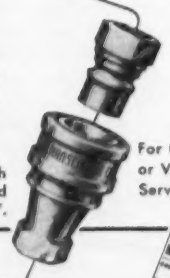
▲ For more details circle NED-569 M7 on enclosed inquiry slip ▲



Shuts off both ends of line . . . prevents loss of liquid, gas, or pressure.

HANSEN

QUICK-CONNECTIVE TWO-WAY SHUT-OFF COUPLINGS



For Pressure or Vacuum Service.

Brass or Steel with Female Pipe Thread Connections from ⅛" to 1".

Both ends of line are positively sealed when you disconnect a Hansen Series HK Two-Way Shut-Off Coupling. To connect, just pull back sleeve and push Plug into Socket. To disconnect, merely pull back sleeve. No tools required. Identical valves in Socket and Plug permit free flow of gas or liquid when Coupling is connected—practically eliminate spilling of liquid or escape of gas when disconnected.

Write for Hansen Catalog
Lists complete range of sizes of Hansen One-Way Shut-Off, Two-Way Shut-Off, and Straight-Through Couplings.

Quick-Connective Fluid Line Couplings—since 1915
Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

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Washette by Cook

AIDS AMERICAN INDUSTRY

Washette has proved its usefulness in factories, plants, mine and construction camps . . . *anywhere* laundry must be done quickly, efficiently, economically. Superb engineering, stainless steel construction, automatic controls . . . Washette gives *life-time* of trouble-free service.

Washette is America's finest open-end washer, *and the lowest priced!*

Washette by Cook is authorized to display the Canadian Seal of Approval.

Why Washette is America's Leading Open-End Washer

- Especially trained operators unnecessary
- Both AC and DC models available
- Fully Automatic Controls
- Parts Standard, available anywhere

FOR LITERATURE, PRICES AND DISTRIBUTORS, CONTACT

COOK MACHINERY CO., INC.

4122-T COMMERCE ST. DALLAS 26, TEXAS

For more details circle NED-571 M7 on enclosed inquiry slip

MARSHALLTOWN

ROTARY THROATLESS SHEARS

Capacities from 18 Gauge to 1/2"
Cuts any SIZE . . . any SHAPE

America's finest for every cutting job—straight, irregular or circular patterns.

Speedy—up to 6 ft. per minute. Efficient, easy to operate.

Built for extra heavy duty use. High grade tool steel cutters.

Write today for details and prices.

MARSHALLTOWN MFG. CO., Marshalltown 2, Iowa

For more details circle NED-572 M7 on enclosed inquiry slip

NEW reversible GAST rotary No. 6 AIR MOTOR delivers

TWO HORSEPOWER

. . . weighs only 17 pounds

Here's compact, light-weight power with many advantages as original equipment or for plant use! With this new 2 h.p. Model 6AM, the Gast line of rotary air motors now includes five popular sizes from 1/20 h.p. to 4 h.p.

Some models are available with either foot or flange mountings for horizontal or vertical direct, belt, or gear driving . . . special reversible rotation, etc. Gast Air Motors are *explosion-proof, variable-speed, burn-out proof* and *low in first cost!*

Write for Model 6AM Bulletin 657 (or specify h.p. that interests you) *and request "Application Ideas" Booklet also!*

Gast Manufacturing Corp., Box 117-R
Benton Harbor, Michigan.

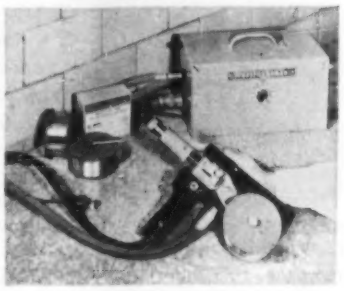
Original Equipment Manufacturers for Over 25 Years

GAST ROTARY
- AIR MOTORS TO 4 H.P.
- COMPRESSORS TO 30 P.S.I.
- VACUUM PUMPS TO 28 IN.

See Our Catalog in Sweet's Product Design File

For more details circle NED-573 M7 on enclosed inquiry slip

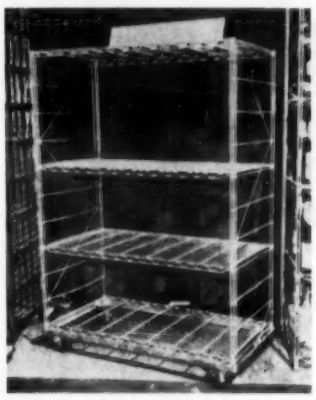
INERT GAS WELDING GUN
portable unit for light gage metals



Filler wire down to 0.020 in. is handled by 4-lb portable handgun and control for inert gas welding of aluminum and other light gage metals. Gun mounts an integral motor-driven wire drive and wire supply. Models for 1/50 to 3/64 in. and 3/64 to 1/16 in. diameter wires are offered. Other features are deadman trigger, shield for overhead splatter protection, replaceable contact tube, and nozzle with argon gas flow of 35 cu ft per hour. Control cabinet measures 6 x 7 x 12 in. and weighs under 20 lb. Gas and welding current flow through a 15-ft hose assembly. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

For more details circle NED-574 M7 on enclosed inquiry slip

MOBILE SHELVING
supports 1000 lb per shelf



Silent casters attached to the 1 x 1 x 1/8 in. steel angle frame facilitate moving this Erecta Shelf from place to place. Shelf uprights are bolted to dollies, and steel rods, into which notches are milled to close tolerances, lock shelves and uprights rigidly together. Corrugated bracing absorbs directional stress and strains. Unit supports over 1000 lb per shelf. Steel dolly is made in 18 x 24, 18 x 36, and 18 x 48 in. sizes. Shelving is extra, according to size. Made by **Metropolitan Wire Goods Corp.**, Box 10, 70 Washington St., Brooklyn 1, N. Y.

For more details circle NED-575 M7 on enclosed inquiry slip

PNEUMATIC OILER
lubricates air-operated tools

Attached directly in the air line, the Inject-O-Mist pneumatic oiler assures automatic airborne oiling of all parts of such air-driven tools as staplers, wrenches, sealers, drills, and riveters. It is suited for intermittently operated tools. The oval-shaped 3 1/4-in. long by 1 7/8-in. diameter oiler is made with 1/8-in. wall aluminum end bells and an air passage tube with a visual plastic oil gage in the center. Exterior aluminum parts are anodized. All metal parts are aluminum, brass, and stainless steel. Weight is 5 1/2 oz. Made by **Carlson Products, Inc.**, Dept. N, 5309 N. 24th St., Omaha 10, Nebr.

For more details circle NED-576 M7 on enclosed inquiry slip

BENCH RIVETER
also peens, swages, mills, and cuts

Air cushion design of the supporting base of this multipurpose, pneumatic, bench-mounted hammer minimizes operational vibration. Developed for riveting, peening, swaging, milling, and cutting, tool has stroke that can be adjusted to work inside recessed workpieces. Tool starts and stops automatically when work is either brought into contact with or removed from contact with the hammering point. A foot operator is also offered. Operation is at 5000 strokes per minute with air pressure from 10 to 100 psi at 4 cfm. Dimensions are 19 in. x 1 ft x 3 ft. Made by **Industrial Control Products Inc.**, Dept. N, 4 Clinton Rd., Caldwell, N. J.

For more details circle NED-577 M7 on enclosed inquiry slip

NEW ALLIS-CHALMERS POWER SHIFT

TORQUE CONVERTER DRIVE

Makes lift truck operation *easier than ever before!*

Simple flick of a lever changes direction — smoothly. You'll be surprised how fast and smoothly you change directions, without jerking.

Position loads quickly, accurately with new inching control. Inching pedal lets you move fast or just creep, with *full* engine power for fast lifting, even while inching.

Have full control — ALWAYS, with every move under positive power coupling. You can brake to stop — merely release pedal to restart.

Get the complete story on the new POWER SHIFT. See your Allis-Chalmers material handling dealer . . . or write for Bulletin BU-465.

ALLIS-CHALMERS, MATERIAL HANDLING DEPARTMENT, BUDA DIVISION, MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS

BH-60

For more details circle NED-578 M7 on enclosed inquiry slip

90% of overhead servicing jobs can be done faster and with perfect safety with these ECONOMY Hi-Reach Telescopers!

Model LB
Hi-Reach Telescopers
Four heights 20 ft. to 25 ft.
Standard Models from $1510.00 up.

Model PUL
Three standard models
No. 1—Lift 10' 9"....$370.00
No. 2—Lift 11' 9"....$390.00
No. 3—Lift 15' 0"....$400.00
Rubber tired wheels $10.00 extra F.O.B. Chicago

Custom built Hi-Reach Telescopers up to 100 ft.

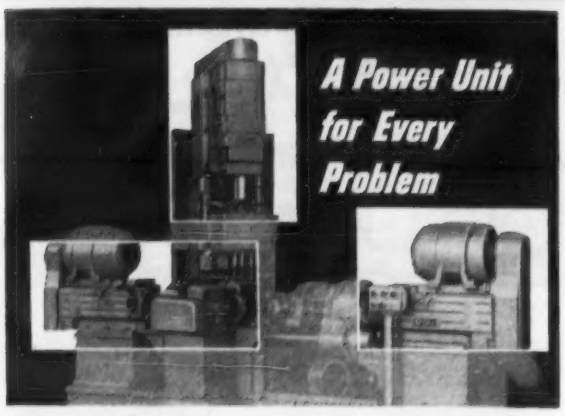
Write for complete catalogue

Headquarters for standard and special built overhead service lifters and material handling equipment since 1901

ECONOMY ENGINEERING

4519 West Lake St., Chicago 24, Illinois

For more details circle NED-579 M7 on enclosed inquiry slip



Ex-Cell-O Quill-Type Hydraulic Power Units offer (1) easily controlled automatic cycles (2) smooth, powerful hydraulic operation and (3) flexibility. Re-arrange to perform different machining operations. Compact and dependable—they are perfectly suited to your production needs. For the complete story . . .

SEND FOR 20-PAGE BULLETIN

Bulletin 45352 shows typical applications, comparative specifications, installation drawings, extra equipment available etc.—complete information on Ex-Cell-O power units. Free, of course.

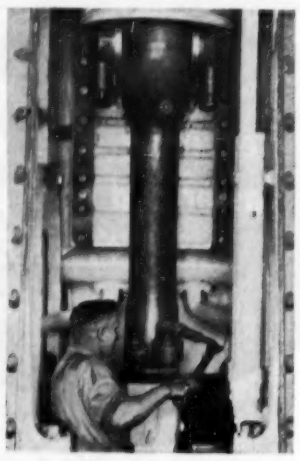
57-14

XLO EX-CELL-O CORPORATION DETROIT 32, MICHIGAN

EX-CELL-O FOR PRECISION

For more details circle NED-580 M7 on enclosed inquiry slip

Large Snap-on ratchet and socket wrench used in assembly of world-famous Nordberg diesel engines.



DIESELS SERVE THE WORLD

Snap-on serves the diesels

Sure-fitting, long-life *Snap-on* tools work on top-name diesel engines all over the world.

Standard and special *Snap-on* tools help build them; individual service kits erect them; on-the-job maintenance kits keep them in first-class condition.

You'll find *Snap-on* tools at work on every type of diesel — for trucks, construction equipment, power plants, marine service, railroad and many others.

Find out how *Snap-on* tool specialists can provide tools and kits to fit your needs exactly. Branch offices and warehouses are located in 54 cities in the U.S. and Canada.

SNAP-ON TOOLS CORPORATION
8110—L 28th Avenue • Kenosha, Wisconsin

For more details circle NED-581 M7 on enclosed inquiry slip

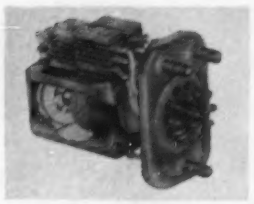
ROTH molds SILICONE PARTS and SPONGE

If you need parts that require an extreme temperature range, −100°F to +500°F, a high resistance to compression set and an exceptional resistance to oxidation, then Silicone is the answer. Let Roth's 34 years of experience help you solve your problems.

Send for specifications
ROTH RUBBER COMPANY
1860 South 54th Avenue • Chicago 50, Illinois

For more details circle NED-582 M7 on enclosed inquiry slip

MINIATURE RELAY
has dual hermetic seal



Relay coil of the Seal-Temp miniature, high temperature, telephone type relay is sealed separately before sealing the entire relay. The dual hermetic seal increases its reliability in the 150° C ambient range where out-gassing of organic coil materials may impair contact efficiency. Temperature range is −65 to 125° C. Weight is 5 oz, and size is 1 11/16 x 1 1/32 x 1 15/16 in. Coil power requirements range from 100 mw per movable arm to 4 w maximum at 25° C. Switching arrangements up to four pole, double throw are possible. Made by **Potter & Brumfield, Inc.**, 270 N. Main St., Princeton, Ind.

For more details circle NED-583 M7 on enclosed inquiry slip

STEP LADDERS
three models have UL labels

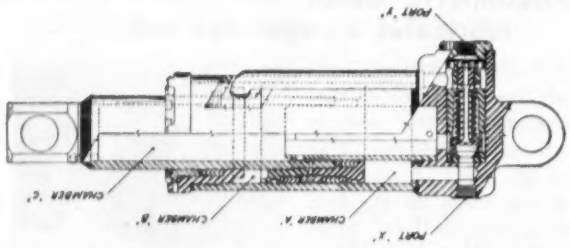
Flush steps which minimize chance of breakage in handling or transport are feature of three step ladders. Sampson model has bar type back con-

struction and is avalable in 3 to 10-ft sizes. Underwriter model has strong 3½-in. side rails and is made in 3 to 20-ft models. The Electric model is offered in 3 to 12-ft heights. Made by **Patent Scaffolding Co.**, 38-42 12th St., Long Island City 1, N. Y.

For more details circle NED-584 M7 on enclosed inquiry slip

HYDRAULIC CYLINDER
self-contained two-speed model

Alternating speed and power cycles are provided by the Thrust-O-Matic hydraulic cylinder, a dual speed, self-contained unit which incorporates a single pump



and motor. Automatic valving effects the shift from low power and high speed to high power and slow speed in response to increases and decreases in system pressure. Its substitution for single-cycle cylinders brings about savings in over-all cycle time. Cylinder is available in virtually any size and cycle ratio. Exposed surfaces of the piston rod tube are chrome plated. Made by **Crown Engineering Corp.**, Dept. NED, 4700 Washington Ave., Houston 8, Tex.

For more details circle NED-585 M7 on enclosed inquiry slip

DIELECTRIC TEST SET
conducts insulation breakdown tests

Rated at 1000 v rms at 5 amp or 5000 v rms at 1 amp, the No. 50 dielectric test set furnishes the potentials required for dielectric or insulation breakdown tests conducted under MIL-C-13294A. Operation is from a 220 v rms, 60 cycle, single-phase line. Output voltage is continuously adjustable from zero to maximum by a variable autotransformer within the console. Two pole type instantaneous trip circuit breakers, rated to trip at 25 amp, provide overload protection and serve as an on-off switch. An ammeter with 0 to 1 and 0 to 5 amp ranges and a voltmeter with 0 to 1000 and 0 to 5000 v ranges are incorporated. Made by **Industrial Transformer Corp.**, Third & Dental Sts., Gouldsboro, Pa.

For more details circle NED-586 M7 on enclosed inquiry slip

N-622-QD
Patent No. 2,722,372
Other patents pending.

...for industry

★ NO MOTORS, FANS OR BEARINGS IN EXHAUST LINE
★ NEEDS NO STACK
★ ACID RESISTING VITREOUS ENAMEL FINISH

Quickdraft improves industrial exhausting and cuts maintenance costs. Its blower operates in clean or outside air . . . eliminating down-time for cleaning and replacing fan blades. Quickdraft excels in venting paint booths . . . lightweight and abrasive waste . . . cellophane cuttings . . . chemical fumes . . . corrosive gases . . . noxious fumes . . . high temperatures . . . moisture and smoke. For heating units, it maintains constant draft required for efficient and economical combustion of all fuels. *Send for engineering data . . . today.*

Quickdraft CORPORATION
P.O. Box 87-L, Dueber Hampden Bldg., Canton, O.

In addition to standard acid resisting vitreous enamel finish, all Quickdraft units are available in No. 316 Stainless Steel or in rigid plastics such as P.V.C. Plastics and fiberglass coatings are also available for withstanding highly corrosive gases. With static pressures up to 12-inches, Quickdraft is ideal for materials handling applications.

For more details circle NED-587 M7 on enclosed inquiry slip

A NEW DIMENSION IN DESIGN MATERIAL...

PRECISION BORE GLASS TUBING

Wilmad Offers Unheard-Of Accuracy and Low Cost

Design Engineers are constantly searching for new materials to reduce costs and improve preformance. Wilmad has helped make glass a "new" material by producing precision bore tubing of uniform accuracy with amazing tolerance limits. Wilmad Precision Bore Tubing can be used in making product components, instrument assemblies or sub-assemblies, wave guide tubes, manometers, rotameters, viscosimeters, barometers, McLeod gauges, dilatometers, burettes, dash pots, capacitors, diodes . . in virtually hundreds of precision applications in industry.

Learn how precision bore glass tubing can improve **your** product. Let our engineers help you determine how Wilmad Glass Tubing can solve your design problems.

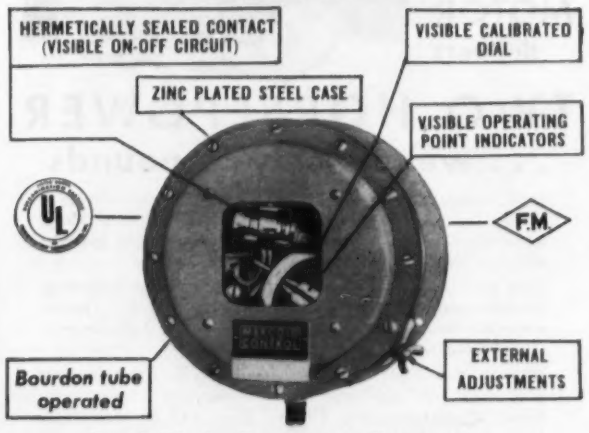
Write for our **new** bulletin on Precision Bore Tubing.

WILMAD GLASS CO., INC.
Landisville, New Jersey

For more details circle NED-588 M7 on enclosed inquiry slip

Splash Proof Moisture Tight Semi-Dust Tight
Drip Tight Sleet Proof

MERCOID®
WEATHER RESISTANT CONTROLS
NEMA 1A, 2, 3, 4



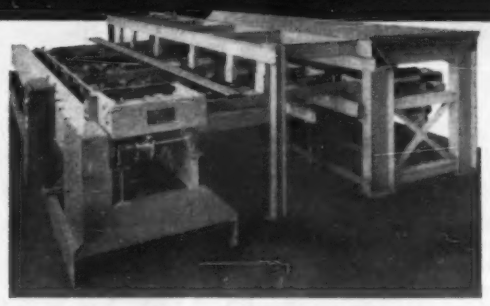
Available for Pressure or Temperature

WRITE FOR BULLETIN 6-18

THE MERCOID CORPORATION
4201 Belmont Avenue, Chicago 41, Illinois

For more details circle NED-589 M7 on enclosed inquiry slip

HOPPER FEED LONG ROUND BARS OR TUBES FROM HOPPER TO SHEAR AUTOMATICALLY



10,000 lb. bundles are dropped into hopper, shown at right. Metering transfer table, in center, transfers the bars to the "V" roll conveyor, shown at left, through metering hands and escapement fingers, which release one bar at a time upon receipt of a signal from the "V" roll conveyor, thus the powered "V" roll conveyor feeds the shears automatically and continuously at its maximum capacity.

"Automation Specialists—Since 1923"

SPURGEON CO.
23501 HOOVER ROAD
VAN DYKE, MICHIGAN
Write for Catalog

For more details circle NED-590 M7 on enclosed inquiry slip

TURNIT

TURNOVER ---------- HERE

Assures 50% LESS TURNOVER HERE where it really counts

TURNIT, makes *correct* rotation of diamond tools a simple effortless operation; saves 50% and more in diamond tool cost.

Now you can get a better wheel finish, closer work tolerance, longer wheel life and, at the same time, eliminate wheel glazing and minimize grinding wheel heat, cracks and fractures.

There is a TURNIT for almost every grinding application on all types and models of grinders. Whether you wish manual or automatic operation, internal or external installation call or write for recommendations.

For further information ask for your copy of the new Turnit bulletin.

J. K. Smit are also manufacturers of diamond tools, diamond wheels, diamond drill bits, diamond lapping compound and diamond powder.

J. K. SMIT & SONS, INC.
Murray Hill, N. J.
TORONTO • • • DETROIT

For more details circle NED-591 M7 on enclosed inquiry slip

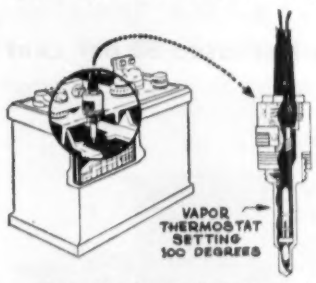
MACHINERY MOVING ROLLER offered with swivel attachment

Machinery and equipment weighing from 50 to 150 tons can be moved on No. 5 Express roller. It has 17 rolls of 2-in. diameter mounted in a 20 7/16-in. long frame of cast alloy steel. The hardened steel chain track assembly is removable for periodic cleaning. Rolling action permits moving over irregular and pitted floor surfaces. Ball bearing swivel attachment is also removable and is used in pairs, or on all four rollers at the corners of a machine, for rapid turning and quick positioning. Made by **Hilman Equipment Co.**, Dept. 5-B, Box 81, Sea Girt, N. J.

For more details circle NED-592 M7 on enclosed inquiry slip

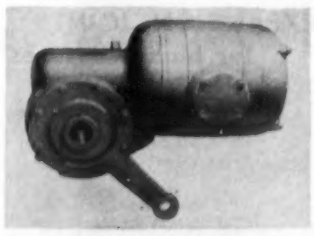
BATTERY HEAT CONTROL prevents electrolyte overheating

Electrolytic solution in lead acid storage batteries is prevented from overheating due to high charging rates by this battery temperature control, thus lengthening battery life. Control consists of a Vapor mercury contact thermostat set at 100° F and a bottle type relay. The non-corroding thermostat tube in a transparent Lucite housing is threaded through an opening in the top of a centrally located battery in the set, such as used in diesel locomotives, industrial trucks, or railroad passenger cars. When the battery solution reaches 100°F, the battery charging rate is reduced to the maximum allowable at this temperature. Control relays are available for 32, 64, or 110-v battery systems. Thermostats are 3⅝ in. long. Made by **Vapor Heating Corp.**, Dept. NED, 6420 W. Howard St., Chicago 31, Ill.



For more details circle NED-593 M7 on enclosed inquiry slip

RIGHT ANGLE GEAR MOTORS in ¼ through 5 hp ratings

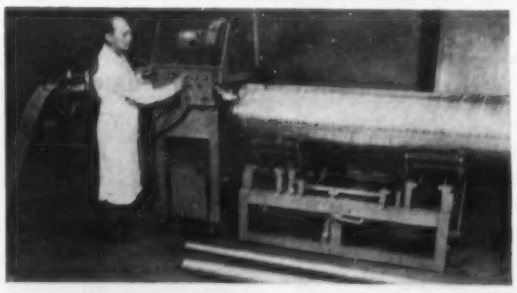


All intermediate transmission elements, such as couplings and sprockets, are eliminated in these shaft mounted right angle gear motors. Design coupled with weight-saving aluminum construction adapts units for installation on light machinery or in small areas. Available in ¼ through 5 hp ratings, gear motor is built for continuous duty and meets all AGMA specifications. Made by **Sterling Electric Motors, Inc.**, Dept. NED, 5401 Telegraph Rd., Los Angeles 22, Calif.

For more details circle NED-594 M7 on enclosed inquiry slip

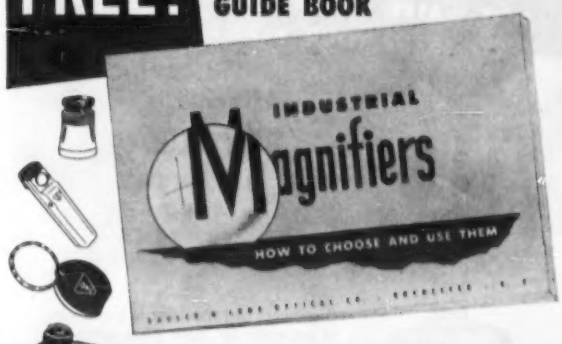
AIR DUCT FABRICATOR automatically makes 3-24 in. sizes

Manipulation of a few switches and pushbuttons on a small control panel enables one man to fabricate 3 to 24-in. diameter air conditioning ducts automatically. Cylindrical, high pressure air duct is made from a continuous strip of thin gage, zinc-coated steel, aluminum, or copper. It is joined by a series of interlocking seams which provide strength to the finished product. An automatic cut-off saw severs the duct into desired lengths as the machine continues to produce. Duct is also suited for mine and tunnel ventilation, dust collection, and irrigation and drainage lines. Made by **Carrier Corp.**, 300-A S. Geddes St., Syracuse 1, N. Y.



For more details circle NED-595 M7 on enclosed inquiry slip

FREE! INDUSTRIAL MAGNIFIER GUIDE BOOK



Here's a 24-page manual full of practical information on the selection, uses and available types of industrial magnifiers, designed to help in solving those difficult problems involving testing, production, assembly, inspection, research and precision measuring. Send for your copy (I-67). Bausch & Lomb Optical Co., 51624 Bausch St., Rochester 2, N. Y.

BAUSCH & LOMB

For more details circle NED-596 M7 on enclosed inquiry slip

cut pumping costs with JABSCO INDUSTRIAL PUMPS

Model 2870
316 S.S. Construction—1¼" Port Size—Stuffing Box Seal—Carbon Bearings

- INSTANTLY SELF-PRIMING
- SIMPLE, COMPACT, ONLY ONE MOVING PART
- DURABLE NEOPRENE IMPELLER
- SELF-LUBRICATED
- TROUBLE-FREE OPERATION

HERE'S another Jabsco industrial pump—designed and built for chemical, pharmaceutical and other industrial applications. Ideal for transfer of various liquids and acids—sump drainage, coolant pumping, general transfer, pulp in solution, filtering, brines, plating solutions—even fluids containing foreign matter or particles, silt, crystals, and other gritty materials. Bronze, stainless steel or plastic construction is available to *solve your specific* pumping problems.
Pumps either light or heavy viscous liquids. Temperature ranges from 35° to 180° F. Write for a Jabsco factory recommendation for your own needs. Specify application, fluid pumped, temperature, pressure, etc.

PATENTED AND PATENTS PENDING

FREE—send for catalog sheets, detailed information... no obligation, of course!

JABSCO PUMP COMPANY
2031 Lincoln Street, Burbank, California

For more details circle NED-597 M7 on enclosed inquiry slip

SAVE STORAGE SPACE

SAVE HANDLING TIME

Brown Sectional Stock Racks store more stock in less space. Handling is reduced to a short lateral movement instead of a long laborious end-haul.

Brown Racks are unique in both flexibility and economy. Spaced as required they can be easily relocated . . . they are neither cross-braced nor floor-bolted. Accessories, including base brackets and trays, increase usefulness.

Brown Racks are quickly installed, all components are slip-fitted together. No bolting, no tools.

WRITE TODAY for complete information on how low-cost Brown Stock Racks can help solve your storage problems. Brown Engineering Company, 129 No. 3rd Street, Reading, Pennsylvania.

BROWN Flexible STOCK RACKS

For more details circle NED-598 M7 on enclosed inquiry slip

REDUCE HOT WATER GENERATION COSTS IN YOUR PLANT

INSTALL A.O.Smith Burkay® HIGH RECOVERY GAS-FIRED WATER HEATERS

Significant cost reduction in the heating of hot water for many plant needs can be made with the **Burkay** System of Water Heating.

With **Burkays** you can cut back the operation of your expensive boilers, or in some cases dispense with them entirely . . . thereby reducing overhead, labor and maintenance costs. High recovery **Burkay** units give you **more hot water at the right temperature for less money in less time!**

Through research ... a better way

A.O.Smith CORPORATION

Permaglas Division, Dept. NED-1257 Kankakee, Illinois

WRITE FOR COMPLETE INFORMATION

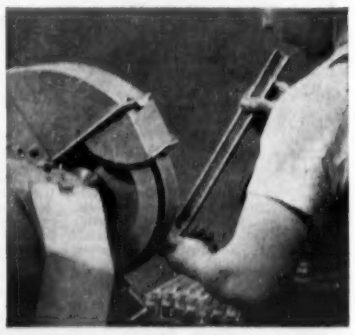
For more details circle NED-599 M7 on enclosed inquiry slip

For reducing finishing costs . . .

try JEWEL BRAND ABRASIVE BELTS

THE UNIFORMLY-HIGH QUALITY of JEWEL BRAND Abrasive Belts saves time, reduces operator fatigue and results in lower finishing costs. It is obtained through a simple system of continuous quality control made effective by the attitude and skill of veteran workers. All JEWEL BRAND belts feature the unique velvet joint . . . longer lasting according to performance records.

JEWEL BRAND belts are available in the precise size and grit to meet every grinding, finishing or polishing need. For details, write ABRASIVE PRODUCTS, INC., 525 Pearl St., South Braintree 85, Mass.



JEWEL BRAND coated ABRASIVES

For more details circle NED-600 M7 on enclosed inquiry slip

Sheffield's CAVITRON

Machines the hardest materials

Such as:
- Hardened Tool Steel
- Cemented Carbides
- Cermets and Ceramics
- Ferrite
- Germanium
- Aluminum Oxide
- Jewel Stones

End Products are
- Dies
- Transistor Components
- Tire Molds
- Electronic Elements
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Ultrasonic

Get full information on the spectacular economy and precision of the Cavitron—Write to The Sheffield Corporation, Dayton 1, Ohio, U.S.A., Dept 13.

the SHEFFIELD corporation of Bendix Aviation Corporation

manufacture and measurement for mankind 7759

For more details circle NED-601 M7 on enclosed inquiry slip

FLANGE RACKS & GRABS for bar stock, sheets, and tubing

Plants with adequate crane capacity for lifting multiple loads of bar stock, sheets, tubing, and similar products, can make use of this flange rack and grab line. Racks have an end-to-end flange, extending from each side, which engages with a flange grab used on a crane. Combination of flange racks and grab permits one, two, or three racks to be lifted at one time. Grab permits close stacking of adjoining tiers up to eight racks high for space economy. Both units can be furnished for any capacity and to suit any material, exact design depending on crane capacity, type and size of material to be stored, desired rack size or capacity, and number of racks to be lifted at one time. Made by **Jarke Mfg. Co.**, 5403 N. Broadway, Chicago 40, Ill.

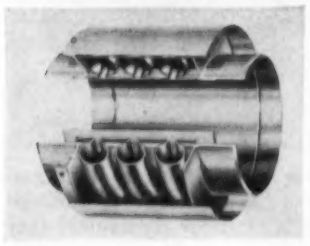
For more details circle NED-602 M7 on enclosed inquiry slip

PALLET TRUCKS battery space increased 50 per cent

Transporter Models WPY-4 and WPY-6 with 4000 and 6000-lb low lift pallet capacity, respectively, now have 50 per cent more battery space. By enlarging battery compartment to 15½ in., up to 6-cell 23-plate lead acid batteries, or the equivalent, can be accommodated. Larger batteries facilitate truck operation on steep ramps where work is continuous with full capacity loads. Trucks measure 29 in. plus load length, have 200-degree steering angle, and are highly maneuverable. Heavy-duty Class H silicone insulated drive motor is standard on the 6000-lb truck, whereas lighter model is powered by a Class B motor. Made by **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

For more details circle NED-603 M7 on enclosed inquiry slip

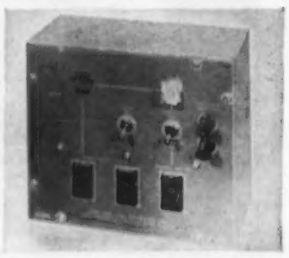
EXPANSION JOINTS for high pressures and temperatures



Power and process piping and related equipment are protected against damage from expansion and contraction due to temperature change by HyPTor expansion joints. The high pressure and high temperature units embody a toroidal corrugation design with circular or oval cross-sections which produce low operating stresses. Only the concave parts of the corrugations are exposed to pressure. An external cover protects them from damage. Joints are usually made from stainless steel in 6-in. diameter sizes and larger, for up to 2000 psi. Other materials and higher pressures can be specified. Flanged or welding connections can be furnished. Made by **Zallea Brothers**, 818 Locust St., Wilmington 99, Del.

For more details circle NED-604 M7 on enclosed inquiry slip

ELECTRONIC CONTROL BOX three plugs control various devices



Double-throw switch on this electronic control box provides automatic changing from normally open to normally closed circuits. Three plug-ins are available for controlling heaters, stirrers, alarm circuits, liquid level controls, and constant temperature baths. Duplex terminals are connected to control circuits such as liquid level controller and sensitive mercury-in-glass regulators. The control circuit of the 1500-w capacity device draws only 5 microamperes. Steel case is 8 x 3 x 7 in. Made by **Labline, Inc.**, Dept. NE, 3070-82 W. Grand Ave., Chicago 22, Ill.

For more details circle NED-605 M7 on enclosed inquiry slip

STOP NOISE-Positively with BURGESS-MANNING SNUBBERS

They are engineered to your requirements with GUARANTEED results.

They are available together with spark arresting—water separating—or, heat recovery. They provide noteworthy savings thru no maintenance, as well as greater equipment efficiency and effectiveness. Also, consider Burgess-Manning Snubbers for your Intake Silencing Requirements.

Present your problems for Recommendations.

Sound Engineering

BURGESS-MANNING COMPANY 755 East Park Avenue, Libertyville, Illinois Dallas, Texas

For more details circle NED-606 M7 on enclosed inquiry slip

For Contacts Which Don't Exist Look to GENERAL PLATE

Paradoxical statement? Not at all — it's merely another way of saying that at G.P. you're not limited to yesterday's thinking in solving tomorrow's contact problems.

For beyond the tremendous variety of contacts already in production at G.P., are the know-how of G.P. engineers and the versatility of G.P. clad metals which combine to offer you better contact performance at lower cost.

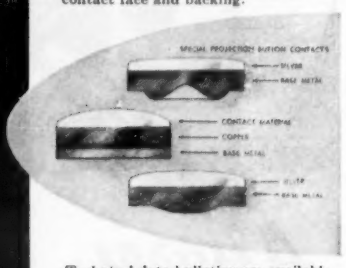
Clad Electrical Contact Tapes — designed for high speed mechanized assembly.

New Metal Bonding Processes — offer improved contact materials.

New Clad Button Projection — designed and produced to meet your specific application requirements.

Single and Double Inlay-Overlay-Top-Lay — achieves permanent bonding of preferred contact metals to practically any malleable base metal without intermediate bonding agents.

Trimetal Clad Projection Welding Contacts — a copper conductor between contact face and backing.



Technical data bulletins are available on request — just let us know what types of contacts you are interested in.

You can profit by using General Plate clad metals.

METALS & CONTROLS CORPORATION General Plate Division 1812 Forest Street, Attleboro, Mass.

FIELD OFFICES: NEW YORK, CHICAGO, DETROIT, MILWAUKEE, LOS ANGELES

For more details circle NED-607 M7 on enclosed inquiry slip

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from ⅛ pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

For more details circle NED-608 M7 on enclosed inquiry slip

Binks spray outfits cut maintenance painting costs

Inside or out...paint more area in less time. Spray gun extensions reduce need for extensive scaffolding. Binks spray painting outfits supplied for use with in-plant compressed air or with gasoline or electric motor driven air compressors.

MD BULLETIN describes 13 outfits.

Ask your Binks industrial distributor for a copy or send direct to the address below.

7087

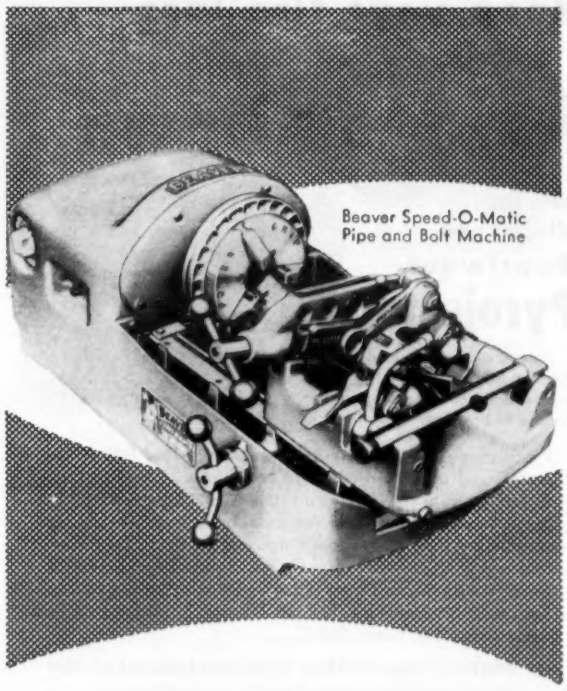
Ask about our spray painting school
Open to all...NO TUITION...covers all phases

Binks EVERYTHING FOR SPRAY PAINTING

Binks Manufacturing Co.
3122-34 West Carroll Avenue
Chicago 12, Illinois

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

For more details circle NED-609 M7 on enclosed inquiry slip



when you buy new... pipe and bolt machines... make sure they are *Really New!*

Today, when quality-plus-quantity production is so important, you can't afford to use obsolete methods and equipment. You need equipment designed to produce more work per hour at less cost, with more profit to you. The new Beaver Speed-O-Matic is the latest development in pipe and bolt machines. It's faster—more powerful. It's rugged, yet weighs only 170 pounds. It's lubricated for life. And, it's an ideal make-up machine. Let us prove to you that you can't afford to be without the **NEW** Beaver Speed-O-Matic! Send for the complete story today!

CAN'T TELL IT ALL HERE! Write for latest facts on all Beaver Machines!

BEAVER PIPE TOOLS INC. 373-500 Dana Ave. WARREN, OHIO

HAVE A CUTTING OR THREADING PROBLEM? Let Our Engineering Research Department help you solve it.

For more details circle NED-610 M7 on enclosed inquiry slip

ELECTRIC MOTOR-OPERATOR can be mounted in any position

Oil-submerged, spring-return, proportional type electric motor-operator is suited for control of heating, ventilating, and air conditioning system dampers, plus various industrial applications. Gear train and drive are submerged in oil and sealed in a die-cast case which can be mounted in any position. Auxiliary switches are accessible for easy adjustment. The output shaft is powered in both directions to position a control device when power is on. This position is maintained with an internal holding circuit. Enclosed spring return drives the controlled device to its normal position on a power interruption. Motor-operator is available for 24, 115, 208, and 230 v. Stall torque is 50 lb-in. Several accessories are available. Made by **Barber-Colman Co.**, Dept. NED, 1300 Rock St., Rockford, Ill.

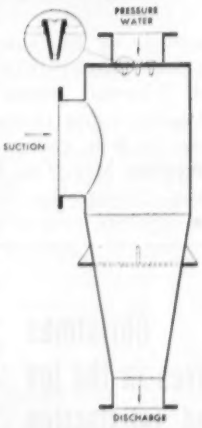
For more details circle NED-611 M7 on enclosed inquiry slip

INCLINED AXLE CASTER swivels at slightest touch

Inclined axle of this caster for furniture, office equipment, and industrial equipment applications forces instant swiveling action at the lightest touch. Lifetime lubricated working parts are totally enclosed to prevent entry of dust, dirt, or other foreign matter. Wheel forms one half of the spherical enclosure, whereas body of caster forms the other hemisphere. Caster swivels and rolls easily in the deepest pile carpet as well as on smooth wood or composition floors. Available sizes are a 2½-in. diameter metal wheel and a 3½-in. diameter rubber tired wheel, both capable of supporting 75-100 lb. Copper, chrome, and brass finishes are offered. Made by **Sierra Engineering Co.**, Dept. NED, 123 E. Montecito Ave., Sierra Madre, Calif.

For more details circle NED-612 M7 on enclosed inquiry slip

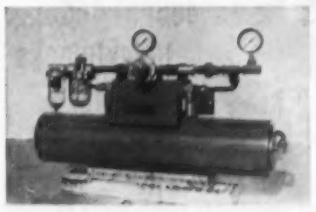
WATER JET EXHAUSTER for high air handling capacities



Barometric discharge leg incorporated in the Hydro-Vac water jet exhauster minimizes water requirements, making the unit economical for high air handling capacities. Unit is suited for evacuating and priming a closed system, such as a turbine condenser, before sufficient steam pressure is available at start-up; for handling noncondensables at low absolute pressure, such as in deaerating water; or for mixing gases with liquids. Jets of water under pressure enter the top of the unit and entrain air or gases through the suction inlet at the side. Mixture is discharged through the tail pipe. Eight standard sizes are offered. Made by **Schutte & Koerting Co.**, Dept. JA-9, Cornwells Heights, Bucks County, Pa.

For more details circle NED-613 M7 on enclosed inquiry slip

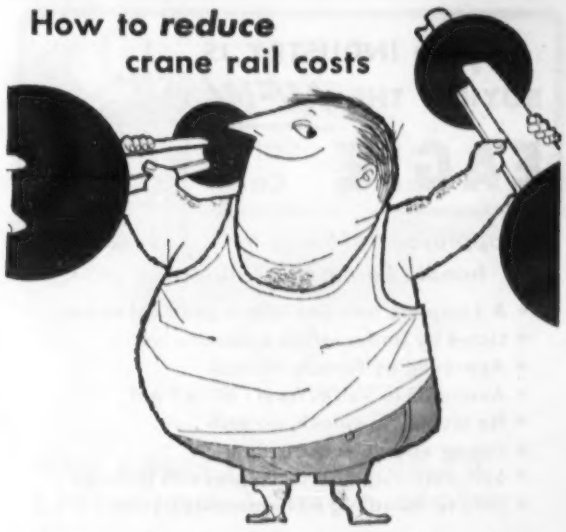
PNEUMATIC BOOSTER PUMP boosts 80-psi air supply to 200 psi



Improved Model H-6 extra heavy duty pneumatic booster pump has boost ratio of 2.5:1 and an output of 2.5 cfm at 190 psi when using an 80-psi input. Unit needs only to be connected to shop air supply and automatically boosts it from 80 to 200 psi. Output pressures of any value between zero and 2½ times shop line pressure can be obtained and controlled within ±5 per cent. Pump measures 32 x 17 x 13 in. Made by **Dayton Rogers Mfg. Co.**, 2822 13th Ave. S., Minneapolis 7, Minn.

For more details circle NED-614 M7 on enclosed inquiry slip

How to *reduce* crane rail costs



Here's some important help for plants with excessively high crane rail maintenance costs. It's a down-to-earth booklet on why USS Special Crane Rail Sections mean lower upkeep costs and fewer delays in crane operation. It also describes a special technique of rail-joint assembly, "floating rail" fastenings and three USS Special Crane Rail Sections. For your free copy, write to United States Steel, Room 5614, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

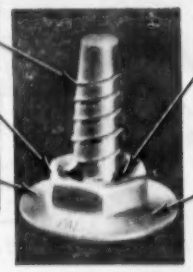
USS SPECIAL CRANE RAIL SECTIONS

UNITED STATES STEEL

For more details circle NED-615 M7 on enclosed inquiry slip

New! PALNUT® Self-threading Nuts

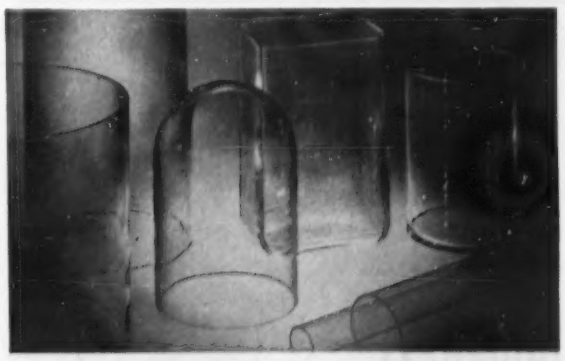
Make their own threads—easily, quickly on studs of Nameplates, Medallions, Moldings, etc.



Low-cost, plain studs become strong, vibration-proof threaded assemblies when fastened with PALNUT Self-threading Nuts. Your fastening operation cuts threads while tightening. No special tools needed—high-speed assembly. Made of spring-tempered steel, comprising a thread-cutting lock nut and flat washer in one piece. Parts are pulled up tight, will not loosen. Sizes for 1/8", 3/16" and 1/4" unthreaded studs. Available plain or with bonded-in plastisol sealer. Write for literature and free samples.

THE PALNUT COMPANY
Subsidiary of United-Carr Fastener Corp.
45 Glen Road, Mountainside, N. J.
Canada: P. L. Robertson Mfg. Co., Inc., Milton, Ont.

For more details circle NED-616 M7 on enclosed inquiry slip



Would a glass cylinder solve your problem?

Any one of these cylinders which we make of PYREX or VYCOR brand glasses might be your solution to a long-sustained problem.

Physical properties, briefly: PYREX glass No. 7740 is heat resistant, chemically stable, mechanically strong. VYCOR glass No. 7900 (96% silica) resists heat to 900° C., is excellent chemically, has good mechanical strength.

Select your size and type

PYREX brand glass

Open End Cylinders—Tubing from 3 mm. to 7 in. O.D. x 48 in. max. length. Mold blown from 3 to 23½ in. O.D. x 36 in. max. length.

Jars—Flat, semi-round and round bottoms—from 5 to 23½ in. O.D. x 36 in. max. length.

VYCOR brand glass

Open End Cylinders—Tubing from 6 mm. to 64 mm. x 36 in. max. length. Mold blown from 3 in. O.D. x 30 in. long to 6 in. O.D. x 25 in. long.

Jars—Round bottom from 3 in. O.D. x 30 in. long to 6 in. O.D. x 25 in. long. Flat bottom, in a variety of sizes of round, square and rectangular shapes.

For complete information please write Plant Equipment Sales Dept.

CORNING GLASS WORKS
56-12 Crystal Street, Corning, N.Y.
Corning means research in Glass

For more details circle NED-617 M7 on enclosed inquiry slip

Why INDUSTRY IS BUYING THE NEW EAGLE Safety Cans

the approved SAFE way to handle flammable liquids

- A complete new line with a good old name
- Listed by Underwriters Laboratories
- Approved by Factory Mutual
- Available in 5 sizes from 1 qt. to 5 gal.
- No waste, no splash, no spill
- Strong quality construction
- Self-adjusting guard cap prevents leakage
- Safe for handling all flammable liquids

1 qt., 2 qt., 1 gal. Safety Cans come with trigger-grip handle, as illustrated at top right. 2½ and 5 gal. sizes feature free-swing handle (left).

Order from your supplier or write for information. The new Eagle catalog showing the Complete Line is now available free. Eagle products are also available in Canada.

EAGLE MANUFACTURING COMPANY
Wellsburg, West Virginia
Serving Industry Since 1894

For more details circle NED-622 M7 on enclosed inquiry slip

there's an amazing
CONCENTRATION OF HEAT
in this tiny cartridge unit!

ACTUAL SIZE
(⅞" long, ⅜" dia.)
Rating: 115 V.— 125 W.

Example of Application
Used to heat metal die to 900° F. forming titanium in the Aircraft Industry.

A new design advantage for you.
As much heat in 1/5th the space. Standard units from 1¼" to 12" long, ⅜" and ½" dia.

WRITE . . . for Illustrated Bulletin.

WATLOW Since 1922—Designers and Manufacturers of Electric Heating Units
ELECTRIC MFG. CO.
1374 FERGUSON AVE.
SAINT LOUIS 14, MO.

For more details circle NED-623 M7 on enclosed inquiry slip

FOR A REAL GRIP

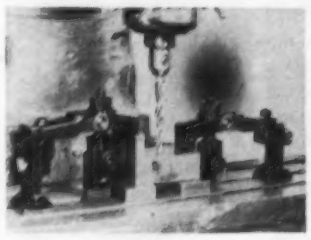
USE UNIVERSAL COLLET CHUCKS

A sure, solid grip on tools is provided by the wrap-around action of Universal chucks because the slotted collet grips the tool on a continuous surface the full length of the collet. Tools can't slip and tool shanks don't get scored. Even tool stubs and broken drills can be used successfully. Sizes range from ¼" to 1½", with shanks to fit any machine. Simplified design results in low chuck cost to you. Write today for new "complete line" catalog.

UNIVERSAL ENGINEERING COMPANY FRANKENMUTH 5, MICHIGAN 201

For more details circle NED-624 M7 on enclosed inquiry slip

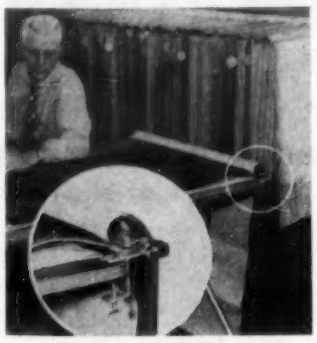
MACHINE TOOL CLAMP
self-contained, rapidly adjustable



Clamping ranges of ⅞ to 2¼ in. and 2⅜ to 4⅞ in. are available in Hi-Lo strap clamp assemblies for machine tool use. They have T or stud bolt subassemblies which are interchangeable and a one-quarter turn serration lock for rapid adjustment. Made by **Hi-Lo Products Co.**, 8819 Lyndon Ave., Detroit 38, Mich.

For more details circle NED-625 M7 on enclosed inquiry slip

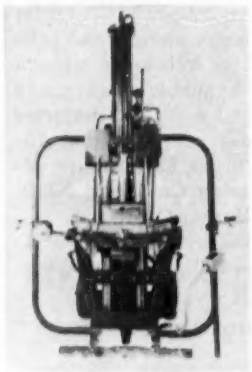
PLAN-HOLDING CLAMP
secures drawings to table or board



Aluminum table clamps are now available for securing the Plan Hold, a drawing or plan gripping device, to a drawing board or table. User can thus leaf through a batch of plans easily, even to the last sheet. The Plan Hold is placed into or removed from the clamp by a twist of the wrist. Made by **Plan Hold Corp.**, Dept. F, Box 1055 A, South Gate, Calif.

For more details circle NED-626 M7 on enclosed inquiry slip

HYDRAULIC BENDER
handles up to 2-in. heavy pipe



Bends up to 180 degrees can be made without repositioning dies or relocating material on the No. 1402 portable ram type bender. Vertical unit occupies a floor space of 100 x 45 in. and will bend up to 2-in. heavy steel pipe. Coils, return bends, special curves, angle irons, channels, reinforcing bars, and flat bars can be bent. Simple initial setting of the duplicator stop will make an unlimited number of the same bends. Jog button facilitates set-up. Motor-driven hydraulic pump mounted on an oil reservoir forms a part of the machine's frame. Available dies range from a 4½ in. radius for ½-in. pipe to 9-in. radius for 2-in. pipe. Made by **Wallace Supplies Mfg. Co.**, Dept. NED, 1304 Diversey Parkway, Chicago 14, Ill.

For more details circle NED-627 M7 on enclosed inquiry slip

Christmas lives in the joy and satisfaction of the giver...

...and in the delight and thankfulness of those who receive

Almost everybody remembers to make Christmas Seals a part of his giving... because they give the greatest gift of all, health, life itself, to so many.

How about you?

Buy and use Christmas Seals

HERE'S PROOF

Glove costs reduced 43% by the JOMAC COST-REDUCTION PLAN

Customer: well-known manufacturer of aircraft parts. Operation: strip steel stamping. This is just one of scores of Jomac Cost-Reduction Plan case histories we can show you. Get *proof* that this plan can work for you, too! For "Evidence" booklet shown here, write to Dept. G, Phila. 38, Pa.

WRITE TODAY!

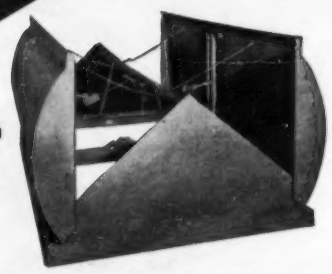
JOMAC INDUSTRIAL GLOVES
Plants in Philadelphia, Pa., and Warsaw, Ind.
In Canada: Safety Supply Company, Toronto
In Europe: North-Jomac Ltd., London, W1

For more details circle NED-628 M7 on enclosed inquiry slip

Keep your fire loss

Down

with the efficient new **Swartwout Pyrojector**



. . . ejects smoke and heat out through plant roof . . . reduces fire spread...guides firemen to fire source

Pyrojector is an effective answer to fires that billow up and spread under closed roofs. It opens a 28 sq. ft. draft-fed escape vent for smoke and flames. Heat melts a fusible link — powerful springs open dampers instantly . . . A completely new design, with unusual features. Low contour (only 29"), neat appearance. Installs and operates *entirely above roof level.* Weatherproof when closed . . . For complete details of this new "escape" ventilation unit write today for Form 701-C.

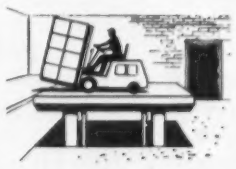
The Swartwout Company, 18511 Euclid Ave., Cleveland 12, Ohio

Swartwout ROOF VENTILATORS AND VENTILATING LOUVERS
ALSO AUTRONIC PROCESS CONTROL EQUIPMENT

For more details circle NED-629 M7 on enclosed inquiry slip

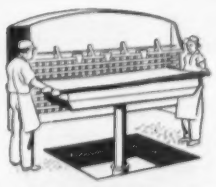
Lift it the low-cost way
WITH DEPENDABLE HYDRAULIC POWER

Load trucks from floor level no dock needed



Move traffic from one floor level to another

Rotary Levelator Lifts, using dependable, economical oil-hydraulic power, have countless applications in modern industry. Capacities to 100,000 lbs. Standard models and special lifts engineered to your specifications. Write for catalog.



Feed machines, perform other industrial lifting jobs

Rotary Levelator® Lifts
ROTARY LIFT COMPANY
Division of the Dover Corporation
1101 Kentucky, Memphis 2, Tenn. • Chatham, Ont.

For more details circle NED-630 M7 on enclosed inquiry slip

LIGHT, RIGID BOXES

STACK when full, NEST when empty

Delivery, manufacturing and materials handling operations are facilitated with this series of stacking-nesting type tote boxes. They are made of Chem-Board, a rigidized heavy duty corrugated board that is strong, lightweight and durable. Boxes have bail handles of 7-gage steel rod that flip in for stacking, and flip out and down for nesting to minimize storage space. Illustrated boxes measure 19 in. wide, 25 in. long and 13 in. deep. They weigh 9½ lb. Approximately 30 other sizes are available.

CONVOY, INC. Phone GReenwood 7-4569
P. O. Station B, Box 216-N CANTON 6, OHIO

▲ For more details circle NED-631 M7 on enclosed inquiry slip ▲

Absolute control!

BECKETT

VALVES...air or hydraulic

Model B Beckett Hi-Cyclic Air Valve. Also made in two springloaded styles —Model BB ball point for cam operating, Model BSL for straight line actuation. Spool end nuts, or optional exhaust type speed controls may be used for velocity adjustment.

Now available with any of 7 spool types, Beckett "Basic Series" Valves with adjustable stroke spool provide positive piston control at high cyclic rates for an unlimited range of uses in many fields. Extremely small size makes them ideal for use in machine tools and other mechanisms—inexpensive, too!

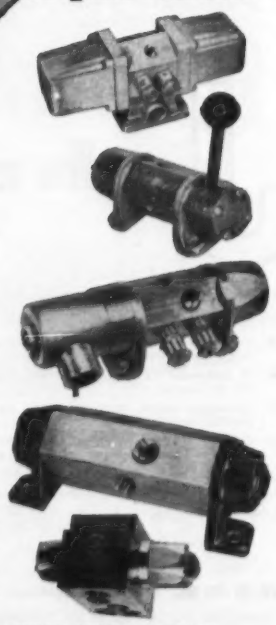
Built in 3-way and 4-way types for use with—

AIR or NON-CORROSIVE GASES: NPT Sizes 1/8, 1/4, 3/8 and 1/2 Mod.; 5-port Dual Exhaust; 150 PSI pressure, or vacuum service.

HYDRAULIC: NPT Sizes 1/8, 1/4 and 3/8; 4-port Single Exhaust; 1500 PSI pressure.

. . . For any directional Control Valve Requirement

first check it with Beckett!



✔ A complete line of advanced-design air and hydraulic control valves. More than 150 models—solenoid, manifold, piloted, solenoid piloted, lever, cam roller, spring center, detent and combinations of these actuators.

✔ All spool types: 2 position, 3 position, float piston, open center, closed center, servo, port exhausting center position.

✔ All carried in stock for immediate delivery. Write for complete valve catalog or detailed information on Hi-Cyclic Valves to meet your specific requirements.

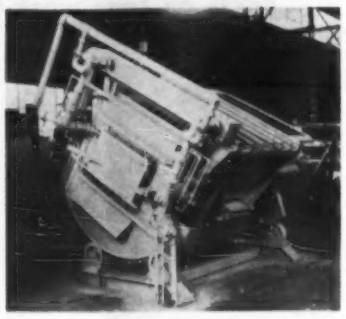
DISTRIBUTORS IN MAJOR CITIES COAST-TO-COAST

THE BECKETT-HARCUM COMPANY
1147 WAYNE ROAD, WILMINGTON, OHIO

▲ For more details circle NED-632 M7 on enclosed inquiry slip ▲

ALUMINUM MELTING FURNACES

have 1000 to 3000 lb hold capacities

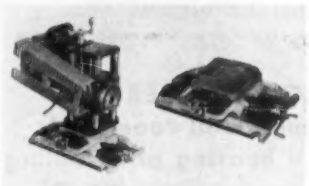


Tilting reverberatory type aluminum melting furnaces provide molten metal continuously to holding furnaces for diecasting, permanent molding, sand casting, and other operations. The SWB Series furnaces are gas or oil fired, and are easily charged, fluxed, alloyed, cleaned, and relined. Hourly melt rates are close to available holding capacities of 1000, 1700, 2500, and 3000 lb. Hot metal is available from a cold start in 1 to 1½ hours, depending on furnace size. Made by **Stroman Furnace & Engineering Co.**, Dept. 25B, 9900 Franklin Ave., Franklin Park, Ill.

▲ For more details circle NED-633 M7 on enclosed inquiry slip ▲

MILL FEED TABLE

longitudinal feeds from 8½ to 42½ in.

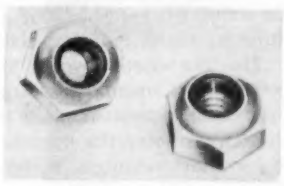


Feeds and slides for multiple combinations of metalworking are provided by this mechanical feed table. Tool is suited for high production, automation setups, and for combining the Dumore Versa-Mil into continuous transfer operations. Four feed table sizes are offered with longitudinal feeds varying from 8½ to 42½ in. Cross feed on all sizes is 3⅜ in. Lead screw is calibrated to 0.001 in. When machining must be done close to surface on which feed table is supported, lower carriage can be removed to reduce height from 3 5/16 to 1 11/16 in., providing one direction of travel only. Unit has hardened and ground 6-in. wide ways and tapered gibs. Made by **Dumore Co.**, 1370 17th St., Racine, Wis.

▲ For more details circle NED-634 M7 on enclosed inquiry slip ▲

LOCKNUT

has nylon insert in die cast body

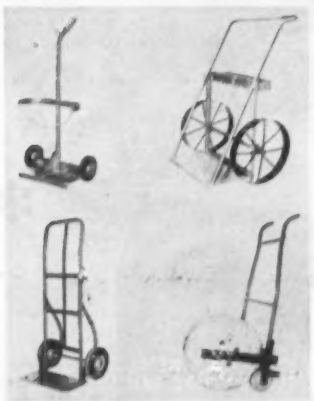


Unthreaded nylon collar is firmly anchored as a locking element in the body of this diecast zinc alloy hex nut. This collar maintains a constant grip on the screw threads, dampens vibration, seals out moisture, and resists loosening. Locking effect exists at any point along the mating screw, even if not tightened down. Reusable fastener is impervious to practically all chemicals, solvents, and weathering. Range of thread sizes offered is No. 4 to ½ in. Samples are available. Made by **Gries Reproducer Corp.**, Dept. NED, 400 Beechwood Ave., New Rochelle, N. Y.

▲ For more details circle NED-635 M7 on enclosed inquiry slip ▲

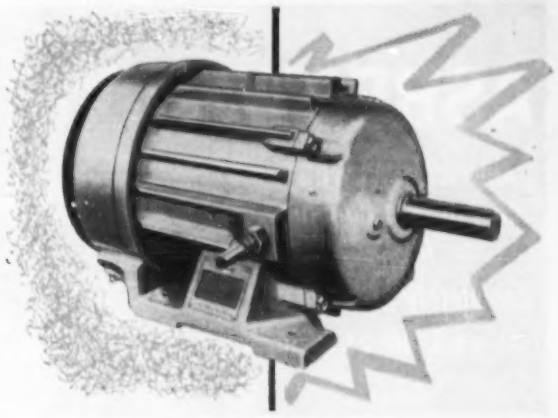
HAND TRUCKS

for packages, cylinders, reels



Balanced load design, welded construction, and safety in use are features of four models in line of Harper hand trucks. Uni-handle cylinder trucks for small and medium gas cylinders use a single column support. All have semipneumatic wheels with oil-impregnated bearings. Continuous or dual-handle cylinder trucks are for medium and large cylinders. They have 18 or 24-in. steel wheels or 14-in. semipneumatic ball bearing wheels which are mounted flush with floor or 1 in. off floor. Series of hand trucks includes six models with capacities from 300 to 800 lb. Fourth design is the Wheel 'N Reel truck for moving reels of welding cable, wire, and hose up to 24 in. wide, with 40-in. diameter, and weighing up to 1000 lb. Made by **Harper Steel & Supply, Inc.**, Dept. 50, Box 33, Wichita 1, Kans.

▲ For more details circle NED-636 M7 on enclosed inquiry slip ▲



New Louis Allis "Clean-Flo" Lint-Free Textile Motor

Louis Allis now introduces the modern textile-motor concept: totally enclosed, self-cleaned with high-capacity fan — for lint-free operation.

Many features make this motor specially suited for textile industry use. See them in bulletin 1850, "Louis Allis Textile Motor." The Louis Allis Co., 436 E. Stewart Street, Milwaukee 1, Wisconsin.

LOUIS ALLIS

TE-106

▲ For more details circle NED-637 M7 on enclosed inquiry slip ▲

SHEAR SHEET MATERIAL with

PEXTO MACHINES

A complete line of industrial Power- and Foot-Operated Squaring Shears, each in several sizes. Specifically designed for cutting sheet metal, plastic, fiber, rubber, insulation, Fiberglas, and textiles. Built-in accuracy, ruggedness, smooth operation, and long service life.

New Squaring Shear Bulletins on request.

THE PECK, STOW & WILCOX COMPANY
SOUTHINGTON, CONN. U. S. A.

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get the facts about forgings...

from the world's largest producer of brass, bronze and aluminum forgings . . .

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN 195

Please send me a copy of your ENGINEERING MANUAL H-58565

NAME _____
COMPANY _____
ADDRESS _____

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ASBESTOLUX

America's NEWEST all-purpose building board

completely fireproof—as workable as wood

Proved in service since 1951, Asbestolux is now available in the U.S.A. Here is a new kind of fireproof asbestos board. It can be nailed without drilling . . . can be sawed with ordinary saw blade. It's fireproof, completely inert. It's light, easy for one man to carry. Can be fabricated on the job.

WRITE TODAY FOR FREE SAMPLE

NAAC NORTH AMERICAN ASBESTOS CORPORATION
Board of Trade Building, Chicago 4, Ill. • Phone WAbash 2-1338

For more details circle NED-640 M7 on enclosed inquiry slip

1 *For safe, clean, simplified handling of parts between successive production stages. Contents always accessible, visible—protected.*

HOW PALLETAINERS® can help your *management* cut Costs...

2 *Palletainers save time in the shipping department, increase safe truck and rail loading capacities and eliminate transit damage. For return shipment or storage, folded Palletainers save 75% of space and receive lowest freight rates.*

If you store, process or ship materials of *any* kind...*You need Palletainers.**

Because...Palletainers provide fast, efficient low cost unit handling!

Because...Palletainers reinforced construction makes them almost indestructible.

Because . . . There's a size, capacity and type to match every conceivable need.

Because...It's "profit-wise" to keep materials, parts and finished products moving efficiently and economically . . . through production, temporary storage, in-plant transport or long distance hauling.

3 *When storage or warehouse space is at a premium, look to Palletainers. They'll stack to the roof with safety and you can inventory their contents at a glance!*

It will pay you to investigate USP Palletainers . . . they'll help you cut costs where they really count!

The Palletainers you purchase today will quickly pay for themselves in man hour and equipment savings. Put them to work today.

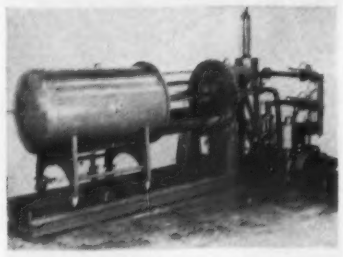
***Fluid loads? Sure . . . Bulk Lode Palletainers equipped with heavy duty liners simplify all fluid load handling.**

WRITE—WIRE OR PHONE

UNION STEEL PRODUCTS CO.
Albion, Michigan

For more details circle NED-641 M7 on enclosed inquiry slip

VACUUM METALLIZER coats 12,000 sq in. per load of parts on four work-holding rods

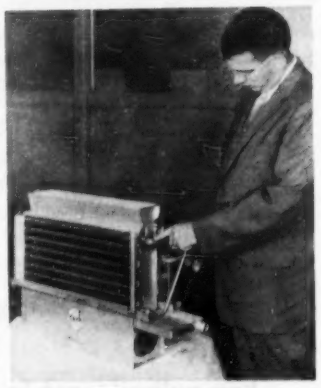


This moderately-priced, medium capacity, Model 3143 industrial vacuum coating machine is particularly suited for vacuum metallizing operations in the small to medium size plant. The 5-ft long, 42-in. horizontal coating chamber handles up to 12,000 sq in. of coating per load. Two filament rods and a planetary jig accommodate four work-holding rods and are cantilevered from the stationary head of the chamber. Inside of chamber is readily cleaned by removal of strippable Narliner plastic liner and accumulated metal coating.

The 100 S mechanical pump and the 16-in. high-vacuum oil diffusion pump exhaust the chamber to coating vacuum in less than 10 min. When fully loaded, the unit will process three to five batches per hour. All controls and gages are conveniently located. Made by **NRC Equipment Corp.**, Dept. 29NR, 160 Charlemont St., Newton Highlands 61, Mass.

For more details circle NED-642 M7 on enclosed inquiry slip

INDUCTION AIR CONDITIONER system uses double coil room units for year-around heating and cooling

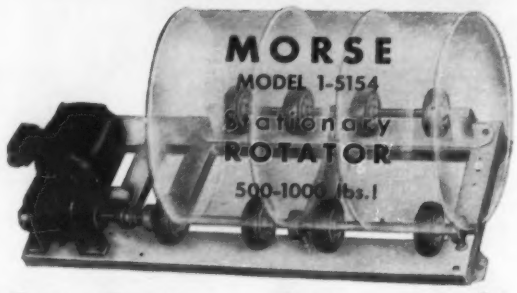


Induction air conditioning system, especially suitable to multistory, multiroom buildings with long perimeters, narrow floor plans and maximum window areas, employs high capacity, double coil room units. There is no seasonal changeover from chilled to hot water, allowing use of small primary air preheaters, dehumidifier, reheaters, and central fans, as well as small primary air ducts. Ductwork can be furred into standard building columns.

Heating costs are as much as 15 to 25 per cent lower than uncontrolled radiator systems. Units require only replacement of filters when necessary. Room units for the system are offered in either 12-in. high floor mounted models or 20-in. high wall hung models with coil lengths of 20, 28, 36, or 48 in. Decorative casings with raceway covers, end and center supports, panels, wall brackets and shelving give decorators flexibility of styling. Developed by **York Corp.**, 111 Roosevelt Ave., York, Pa.

For more details circle NED-643 M7 on enclosed inquiry slip

HEAVY DRUM ROTATING



Cuts Costs . . . Fast . . . Safe

You can now mix, blend or tumble loads up to 1000 lbs. with the new MORSE Model 1-5154 Stationary ROTATOR. It is primarily engineered for heavy loads in 30 to 55 gallon drums yet lesser loads can be rotated with equal efficiency. Any diameter drum can be mounted by adjusting only three bolts.

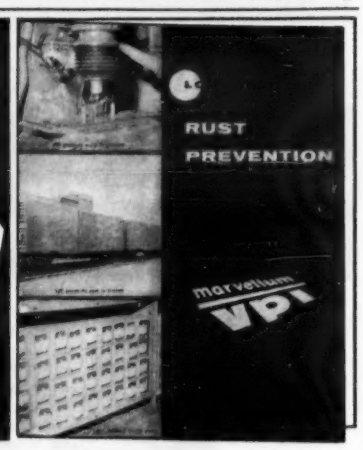
The rugged ½ H.P. motor can be geared to give any fixed speed from 5 to 30 RPM. Six inch drive wheels (4) and idler wheels (4) have Neoprene treads for smooth, non-slip revolving. Drive shaft, idler shaft and all welded steel frame are extra rugged construction for long-lasting, trouble free operation.

A double drum model No. 2-5154 with a 2000 lb. capacity is also available. Write today for brochure on complete Morse line.

MORSE MANUFACTURING CO. INC.
756 West Manlius St. East Syracuse, N. Y.

For more details circle NED-645 M7 on enclosed inquiry slip

HERE IS THE answer TO LOW COST RUST PREVENTION



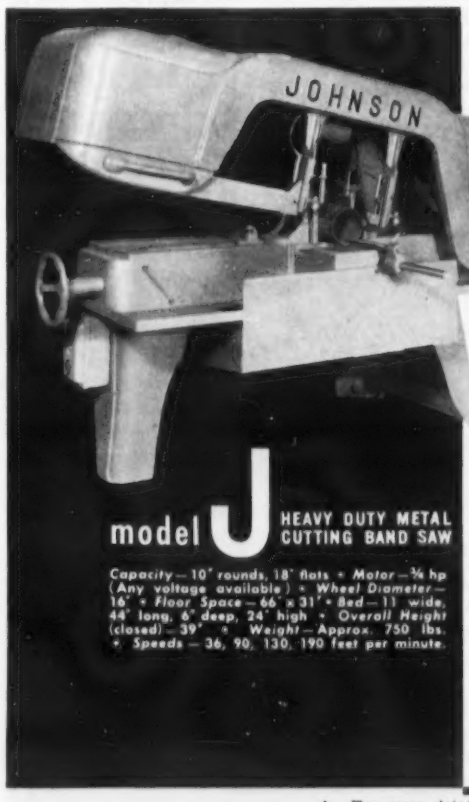
Write today! for this FREE complete new source of information on Marvellum's V P I Rust preventive papers.

- NON-TECHNICAL
- EASY TO UNDERSTAND
- ACT NOW!

A complete factual guide to the use of V P I

THE MARVELLUM COMPANY
11-D Appleton Street
HOLYOKE • MASS.

For more details circle NED-646 M7 on enclosed inquiry slip



COMPARE

and you'll get a BIG NEW Johnson

COMPARE the handsome, husky Jonhson Model J with any metal cutting saw and here's what you'll find:

- *Johnson leads the way in dependable, well-engineered, high performance band saws.*
- *A Johnson saw will cut anything in your stock pile, and do it faster.*
- *Johnson saws contain more exclusive construction and performance features that save time and money.*
- *Johnson saws are the finest metal cutting machines available anywhere—and, at the lowest price!*

COMPARE . . . and see for yourself how easily you can save time, labor and production dollars with a Johnson saw. Complete information, prices—are yours for the asking.

Johnson MANUFACTURING CORPORATION
Main Plant: Barnes & Taylor Sts., Albion, Michigan

Eastern Distributor	Midwestern Distributor	Western Distributor
R. J. R. KELLY CO.	W. Q. LUNDMARK	HASTINGS DISTRIBUTORS
Hale Bldg., 51 Main St.	75 N. Broadway	1605 Solano Avenue
East Orange, N. J.	Des Plaines, Ill.	Berkeley, Calif.

For more details circle NED-644 M7 on enclosed inquiry slip

Compare! No Other Lift Truck can equal the performance of Automatic's New "DOCKER"

✓ Shortest, most compact truck in its class!

✓ Lowest step height—best grade clearance!

✓ Top lift and travel speeds, maximum stability!

Best performing truck on the market for the trucking industry and other close-quarter materials handling, the new "Docker" is 5 ways superior! Overall length (less fork) of 53⅞" • step height of only 7" • lift speed of 65 FPM • grade clearance of 45% • turning radius of 56". *No other* truck of its type offers so much! The "Docker" provides greater stability, too, through 4-wheel suspension and a lower center of gravity. It is available in Mono-Lift or Duo-Lift, 1,000 to 3,000 lbs. capacities.

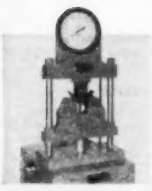
AUTOMATIC TRANSPORTATION CO.
Division of The Yale & Towne Mfg. Co.
Dept. X-7, 61 W. 87th St., Chicago 20, Ill.
WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

▲ For more details circle NED-617 M7 on enclosed inquiry slip ▲

will any of these tests help you?

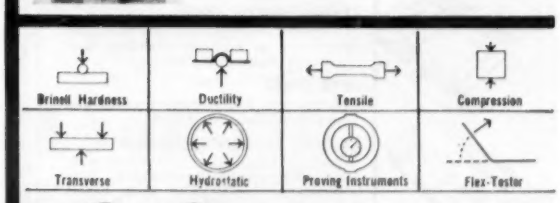
is your problem like this?

Steel City versatile Brinell Hardness Tester checks hardness of automotive crankshafts. One fixture adjustable for four different sizes of shaft. Fixture easily removable to provide standard tester with 12" x 18" opening . . . large table anvil for multitude of testing.



. . . or more like this?

Steel City Guided Bend Testing Machine makes qualification tests on butt-welded specimens in accordance with AWS and ASME standards. Exclusive design provides automatic ejection of tested part. Unskilled operator makes perfect test.



Steel City Testing Machines Inc
8819 Lyndon Avenue, Detroit 38, Michigan

Whatever your testing problem Steel City may *already* have a practical solution.

Write today for FREE literature.

▲ For more details circle NED-648 M7 on enclosed inquiry slip ▲

Fluid-Feed
ROTARY TABLE

Feeds parts fast! Combines with other stock units for easy, cost-cutting automation.

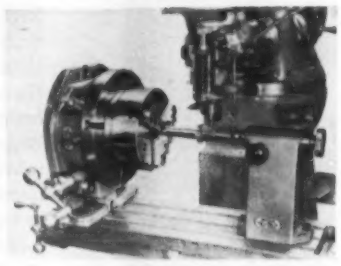
Write for complete catalog today!

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. NA-127, Chicago 41, Ill.
PATHFINDER IN AIR POWER AUTOMATION

▲ For more details circle NED-649 M7 on enclosed inquiry slip ▲

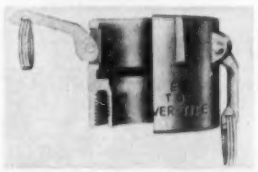
ROTARY TABLES in 9, 12, and 15-in. sizes



In addition to the regular 12-in. model originally introduced, the Universal rotary table is now offered in 9 and 15 in. sizes, along with two new accessories. Both models can be used horizontally as well as vertically. All models are available with chucks and chuck adapters and with a tailstock accessory that allows tables to be used more effectively in vertical position for holding work between centers. Photo shows table equipped with chuck and tailstock for machining a serrated shaft. Made by **Universal Vise & Tool Co.**, 12 Nedo St., Parma, Mich.

▲ For more details circle NED-650 M7 on enclosed inquiry slip ▲

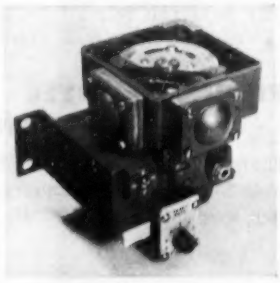
HOSE COUPLING for product transfer at 25 psi



Full flow is assured by maximum inside diameter of this M.I.D. coupler designed for gravity delivery of gasoline, or transfer of other products at pressures to 25 psi. Coupler eliminates need for attaching first a conventional hose coupling, then adding a quick coupling. Body portion is constructed of a single brass forging with high tensile bronze coupling devices. Made by **Ever-Tite Coupling Co.**, Dept. N, 254 W. 54th St., New York 19, N. Y.

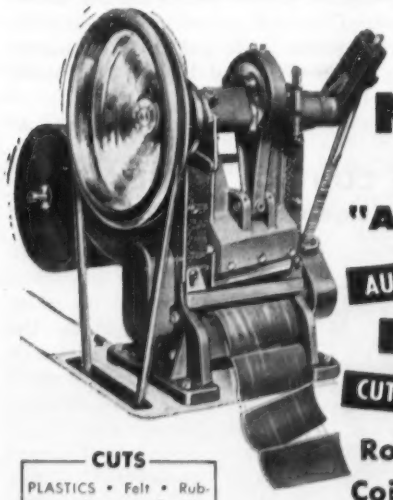
▲ For more details circle NED-651 M7 on enclosed inquiry slip ▲

PROPORTIONAL CONTROLLER adjusts from 2 to 500 per cent



Transmitters with 3 to 15-psi output can operate the Type VC pneumatic controller which features proportional band adjustment from 2 to 500 per cent and less than 0.05 per cent dead band. Remote pneumatic or local spring set point adjustment is possible. Device uses null-balance-vector principle. Reset rate is adjustable from 1/10 to 50 repeats per minute. Action can be reversed. Controllers are furnished for panel or post mounting, or with a weatherproof cover. Air supply required is 0.2 cfm at 18 to 20 psi. Proportional action and proportional plus reset action control modes are offered. Made by **Republic Flow Meters Co.**, 2242 Diversey Parkway, Chicago 47, Ill.

▲ For more details circle NED-652 M7 on enclosed inquiry slip ▲



NEW JACO "AUTOGIL"

AUTOMATICALLY MEASURES CUTS and COUNTS

Roll and Coil Stock to Accurate Lengths

CUTS
PLASTICS • Felt • Rubber • Paper • Textiles
Wire • Thin Metals

AUTOGIL . . . a new, heavy-duty automatic guillotine . . . eliminates costly hand cutting . . . increases production.

Available in two sizes . . . two types . . . up to 5" or 15" wide . . . infinite feed lengths . . . each type maximum 8" or 96" long . . . cuts material up to 3/16" thick . . . production speeds . . . from 120 cuts per minute . . . send for details to Dept. 25A.

JACO DEVICES, INC.
95 HIGH STREET • HINGHAM, MASS.

▲ For more details circle NED-653 M7 on enclosed inquiry slip ▲

Type 240-A handles up to 3 loaded cars.

JEFFREY all-purpose CAR PULLERS

Pull in any direction—Large vertical capstan makes it easy. Winch allows as many turns of rope as needed for hard pulls and to prevent slippage.

Save time—Eliminate waiting for locomotive to spot cars for loading or unloading . . . avoid hard, slow job of pinching cars into position.

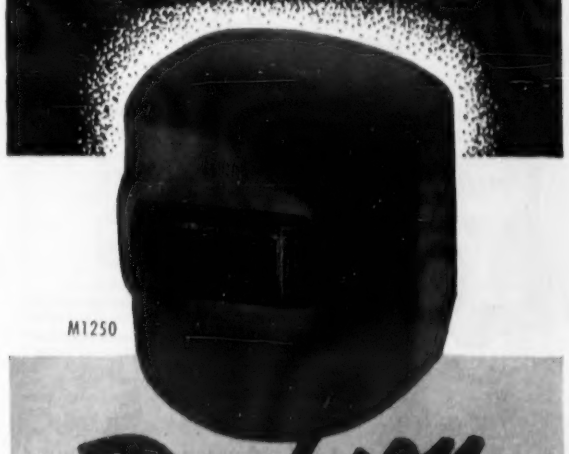
Eliminate heavy equipment—Use Jeffrey Car Pullers for spotting cars or ships, docking barges, handling moving jobs wherever a pulling force is needed. Described in Bulletin 861. The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

▲ For more details circle NED-654 M7 on enclosed inquiry slip ▲

BUILT BETTER FOR SAFETY FOR COMFORT



M1250

Dockson Helmets and Handshields

Complete protection against sparks, flash and dangerous rays of arc welding. Federal specification plates. Lightweight, roomy, adjustable, comfortable headgear, spring pivot for positive holding, easy raising and lowering. One-piece, rivet-less formed fibre, built to last.

Write for distributor's name and our catalog of Head and Eye Safety Equipment.

Dockson CORPORATION
3839 WABASH AVE.
DETROIT 8, MICH.

▲ For more details circle NED-655 M7 on enclosed inquiry slip ▲

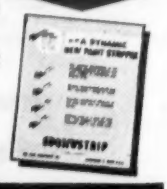
DON'T LET YOUR STRIPPING PROBLEMS GET YOU DOWN!

EPOXYSTRIP

Is a LIFE SAVER—TIME SAVER—MONEY SAVER

A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

SEND FOR FREE BROCHURE



- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

BECK EQUIPMENT COMPANY
3352 WEST 137th STREET CLEVELAND 11, OHIO

For more details circle NED-656 M7 on enclosed inquiry slip

A modern truck for modern plants

The HydroLectric

with most modern features

- 2 Drive Wheels instead of one
- 2 Braking Systems available instead of one
- 4 Wheel Stability instead of three
- Alloy Gear Transmission instead of chains
- 100% more Steering Ease —Greater Maneuverability
- 50% less Maintenance —Easy Accessibility
- Finger-Tip Control —Greater Safety

Put these modern features to work for you, greater profit at no additional cost.

Write for Bulletin KP

STUEBING Designed • Engineered • Built

LIFT TRUCKS, INC. / CINCINNATI 14, OHIO

THERE IS A TRUCK FOR EVERY PURPOSE TO HANDLE ANY KIND OF MATERIAL.

For more details circle NED-657 M7 on enclosed inquiry slip

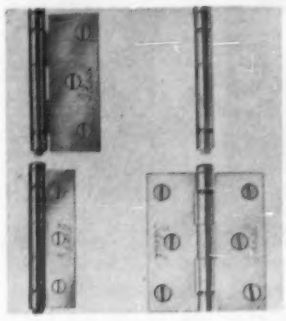
Tells all about ELGIN Solid Carbide ROTARY CUTTING TOOLS

At your fingertips—the facts on Elgin's complete line of "Golden Circle" solid carbide rotary cutting tools. Get longer tool life, longer runs, higher production, lower costs. Send for your copy today.

Abrasives Division
ELGIN NATIONAL WATCH COMPANY
ELGIN, ILLINOIS Dept. I

For more details circle NED-658 M7 on enclosed inquiry slip

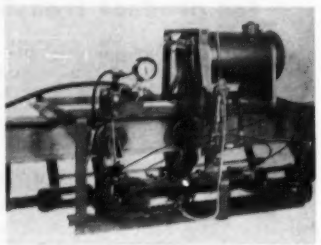
ALUMINUM DOOR HINGES
have lifetime lubricated bearings



Bronze Oilite bearings built into the knuckles of these hinges increase their life 10 to 20 times over plain bearing hinges. Bearings provide lifetime lubrication, eliminating need for oiling and minimizing replacement. Aluminum, stainless steel, plated steel, and solid brass hinges are available with Oilite bearings and are offered in full surface, half surface, and full mortise styles. Made by **Ideal Brass Works,** 255 E. Fifth St., St. Paul 1, Minn.

For more details circle NED-659 M7 on enclosed inquiry slip

CONVEYOR CHAIN LUBRICATOR
meters oil to chain pin links

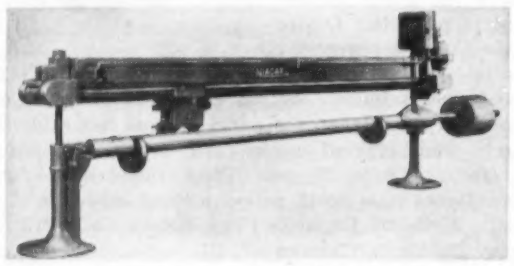


Air-operated Model C automatic lubricator for overhead trolley conveyor chain meters about 2 drops of any grade of oil on each chain pin link. A caterpillar type chain is driven by the conveyor chain to actuate a group of oil-dispensing nozzles which move in and out over the conveyor chain as well as along with it. When nozzles are properly positioned over chain pins, an air-operated pump dispenses the oil. Unit is welded to top of I-beam and operates on 40 psi. Reservoir holds 1 gal of oil and has a sight gage. Lubricators are available for 3, 4, or 6-in. pitch chains. Made by **Moore Lubricator Co.,** Dept. 6, 121 N. 120th St., Milwaukee 13, Wis.

For more details circle NED-660 M7 on enclosed inquiry slip

POWER GROOVER
for single or Pittsburgh lock seams

Eight models of this Giant power groover are available for single or Pittsburgh lock seaming with working lengths from 4 to 10 ft in up to 16-gage mild



steel. Handy pushbutton controls are combined with direct-connected gearhead motor with a built-in brake for fast operation. Carriage returns automatically to starting position when limit switch is actuated. Made by **Niagara Machine & Tool Works,** Northland Ave. & Chelsea St., Buffalo 11, N. Y.

For more details circle NED-661 M7 on enclosed inquiry slip

FIRE ALARM CONTROL PANEL
transmits signals from 1-80 circuits

Functioning as the "nerve center" of an automatic fire detection or sprinkler supervisory system, the Model PN-402RP Du-O-Matic proprietary control panel transmits trouble, supervisory, and fire alarm signals. Received over supervised direct lines by a remote station receiving panel, the signals can come from any of up to 80 circuits installable in the panel. Standard 12 x 18 x 6½-in. cabinet has translucent windows which reveal designating signal lights. Power supply is built in for 1 to 4 circuits; a separate cabinet holds it in larger installations. System is powered by 110 v ac, transformed to low voltage direct current. Batteries are used for supervision and standby power. Made by **Notifier Corp.,** Dept. NED, 239 S. 11th St., Lincoln 8, Nebr.

For more details circle NED-662 M7 on enclosed inquiry slip

MODERN HEATING FOR INDUSTRY

Reznor direct-fired unit heaters offer the modern solution to industry's heating problems . . . from the guard house or the drafting room to production areas or warehouse space.

Reznor unit heaters cost less to install and less to operate than other types of equipment . . . and they require practically no maintenance.

With suspended, duct and free-standing types in all appropriate sizes from 25,000 to 2,000,000 Btu, the Reznor line includes equipment which is exactly right for your plant heating job.

For complete details, write today for your copy of Bulletin GN-57 or give your nearby Reznor distributor a call. You'll find him listed under "Heaters-Unit" in the Yellow Pages.

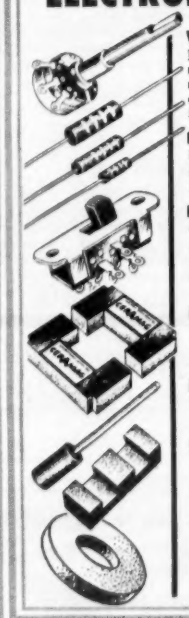
REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED UNIT HEATERS

Reznor Manufacturing Company, 41 Union Street, Mercer, Pennsylvania

For more details circle NED-663 M7 on enclosed inquiry slip

STACKPOLE

Dependable ELECTRICAL-ELECTRONIC COMPONENTS



VARIABLE RESISTORS (Controls)
Dozens of standard composition-element types including single and dual concentric shafts and midgets for transistorized circuits. Choice of 9 switch types. Write for Bulletin RC-10B.

FIXED RESISTORS
½-, 1- and 2-watt composition types in all standard RETMA ranges. Packaged in strips, stacked layers or reels.

INEXPENSIVE SLIDE SWITCHES
Over 15 low-cost types for instruments, appliances, electrical toys, TV's and radios, record players, etc. AC and/or DC ratings from 0.5 to 15.0 amperes. Bulletin RC-10D.

FERROMAGNETIC CORES
Stackpole Ceramag cores offer maximum uniformity in high permeability, low-loss types. Bulletin RC-9A.

IRON CORES
Side-molded, sleeve, cup, threaded and insert types. Bulletin RC-10C.

CERAMIC PERMANENT MAGNETS
Stackpole Ceramagnet permanent magnets offer greater permanence, high electrical resistivity and fully usable energy without "keepers." Bulletin RC-10A.

Electronics Components Division
STACKPOLE CARBON CO.,
St. Marys, Pa.

For more details circle NED-664 M7 on enclosed inquiry slip

REVCO Sub-Zero Chests

- for shrink fits
- for seasoning gauges and tools
- for testing • for research
- for processing to −140°

Model RSZ503 Rivet Cooler (shown) equipped with 90 rivet canisters, temperatures to −30° F. 110V, 60 cycle, single phase.

Model SZH153 with temperatures to −95° F. 110V; 60 cycle, single phase.

Model SZH653, larger capacity, temperatures to −85° F. 110V, 60 cycle, single phase.

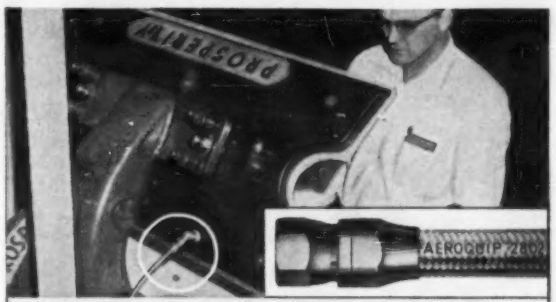
Model SZHC657. Same capacity as SZH653 but attains temperature as low as −140° F. 220V, 60 cycle, single phase.

Refrigeration: Model SZHC657 operates with 3 Tecumseh hermetic compressors in a two system cascade. Other Sub-Zeros use 2 hermetics in a two stage system. Rivet Cooler operates with single hermetic unit. All models equipped with efficient fan-cooled condensers—no liquid coolant required. *Write Today for Full Specifications and Prices.*

Description	Model	Cu.Ft.	Temp. Range Rm. 70°	Temp. Range Rm. 110°	Outside Dim. L	Outside Dim. W	Outside Dim. H	Inside Dim. L	Inside Dim. W	Inside Dim. H
Sub-Zero	SZH153	1.5	−95° F.	−85° F.	42"	28"	42¼"	23"	9"	12½"
Sub-Zero	SZH653	6.5	−85° F.	−75° F.	60"	28"	42¼"	47"	15"	16"
Sub-Zero	SZHC657	6.5	−140° F.	−125° F.	60"	28"	42¼"	47"	15"	16"
Rivet Cooler	RSZ503	5.0	−30° F.	−20° F.	42"	28"	41"	30"	16"	18"

REVCO, Inc.
Setting Trends in Refrigeration since 1938 Deerfield, Michigan

For more details circle NED-665 M7 on enclosed inquiry slip



Solve "HOT SPOT" Fluid Line Problems With Aeroquip 2802 Hose of TEFLON*

One of the toughest assignments for any fluid-carrying line is to convey live steam. When constant flexing is an added burden, frequent breakdowns are expected. But, on the installation pictured above, Aeroquip 2802 Hose (Teflon) has seen over a year of service with no leakage . . . not even a sign of failure.

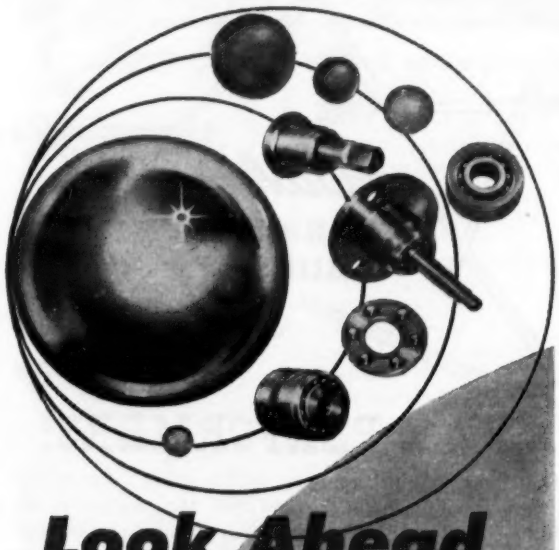
Aeroquip 2802 Hose Lines assure excellent performance for fluid temperatures up to 500° F., or where application demands lubricity, non-adhesion of sticky or viscous materials, chemical inertness and long wear. Savings are made possible with leak-proof "*super gem*" Fittings, which can be detached and reused. Write for Bulletin 1EB-26A.

*DuPont tradename for its tetrafluoroethylene resin.
"*super gem*" is an Aeroquip Trademark.

Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN
INDUSTRIAL DIVISION, VAN WERT, OHIO • WESTERN DIVISION, BURBANK, CALIFORNIA
AEROQUIP (CANADA) LTD., TORONTO 18, ONTARIO

For more details circle NED-666 M7 on enclosed inquiry slip



Look Ahead with Hartford

on your precision ball and special bearing requirements

Hartford's Look Ahead Policy anticipates increasing engineering requirements. The balls are manufactured to increasingly close tolerances and finer surface finishes from a wide range of materials able to withstand increasingly higher temperatures, more severe corrosive conditions and unusual wear problems.

Many difficult bearing problems are solved by Hartford engineers. For example, through unitization of parts, miniaturization and reduction in tolerance build-up is achieved with VERSA-TWIN, a double-row ball bearing in which parts of the end product form the inner and outer races. This bearing can be custom designed to your specific requirement.

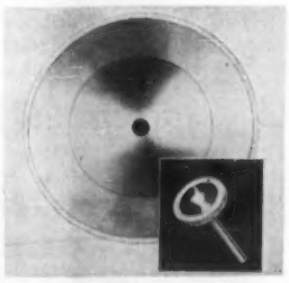
Hartford also makes a complete line of thrust retainers, angular contact and wheel bearings. Technical literature is available on all lines.

Hartford
BALLS • BEARINGS

Hartford Steel Ball Co., Inc., 82 Jefferson Ave., West Hartford 6, Conn.

For more details circle NED-667 M7 on enclosed inquiry slip

DIAMOND-COATED SAWS cut all reinforced plastics



Fiberglas and all reinforced plastics can be cut by a line of diamond-coated saws, available in over 100 mounted and unmounted types, in diameters up to 24 in. Also available are routing tools with configurations which permit several operations at once, and hole saws which are offered in diameters from ¾ to 6 in. Made by **O'Rourke Diamond Co.,** 11423 Van Owen St., North Hollywood, Calif.

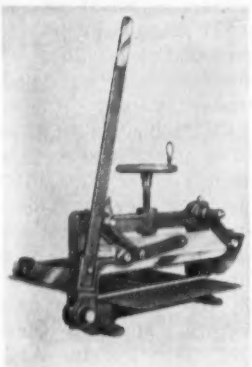
For more details circle NED-668 M7 on enclosed inquiry slip

BENDING BRAKE handles sheet metal up to 18 gage

Bending operations on small or large work involving up to 18-gage sheet metal can be performed on this double apron, hand-operated bending brake. It forms any angle bend up to 155 degrees without dies. Upper forming blade is available in graduated widths, or solid for the length of the machine. Cam action of upper hold-down allows upper forming blade to be replaced with punches for holes up to ⅜-in. diameter in 18-gage steel using a special die block on the apron. In the 4-ft model it is possible to punch to the center of a 52 in. sheet. Radius bends are formed anywhere in the sheet and from the very edges with no flat areas. Made by **P. L. Cady,** Dept. N, Darien Center, N. Y.

For more details circle NED-669 M7 on enclosed inquiry slip

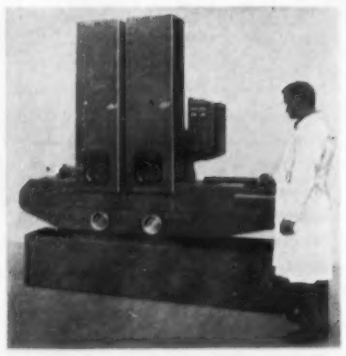
MANUAL PAPER CUTTER for office and small plant use



Cutting of paper for bookkeeping, posting, duplication, and other office uses is safely and accurately performed with this low-cost manual paper cutter. Three sizes have cutting capacities of 8¾, 14, and 20½ in. Machine is finished office green to blend with surroundings. Any girl operator can cut approximately 5000 sheets in 10 to 15 minutes. Safety latch locks machine automatically when cutter is open. Back table has permanent rule and movable guide for easy setting. Made By **Michael Lith, Inc.,** Dept. ML, 145 W. 45th St., New York 36, N. Y.

For more details circle NED-670 M7 on enclosed inquiry slip

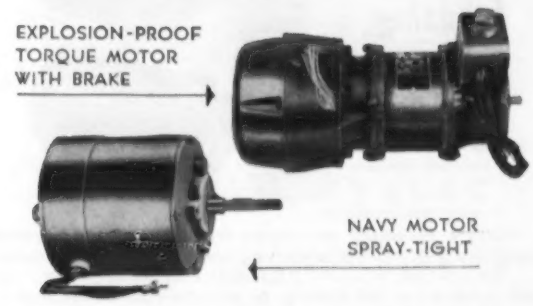
ABRASIVE FINISHING MACHINE grinds, polishes and deburrs



Available with single or multiple heads, Model FF-6 Flat Finisher performs wet abrasive belt grinding, polishing, and deburring operations on flat work such as sheets, strips, bars, stampings, plates, and parts ranging up to 6 in. wide by 8 in. high. Abrasive belts are carried by self-tensioning tracking idler and contact roll, latter driven by up to 7½-hp motors. Electro-magnetic attraction holds work on conveyor belt for positive traction under the contact roll. Force is adjustable to suit work. Hold-down rollers permit processing of nonmagnetic material. Spray, fog, mist, and splash are trapped to assure a dry work area. Made by **Hammond Machinery Builders, Inc.,** 1623 Douglas Ave., Kalamazoo, Mich.

For more details circle NED-671 M7 on enclosed inquiry slip

IF STOCK MOTORS CUT MACHINE EFFICIENCY



Peerless builds a complete line of general purpose motors plus hundreds of specials for specific needs. Our engineers specialize in motor problems that require unusual mountings or construction to achieve maximum machine efficiency. Let us work with you on your problem. Write for Bulletin SDA-155. It tells how we help you.

Single Phase 1/2 to 7-1/2 HP **Polyphase 1/2 to 30 HP**

ELECTRIC MOTOR DIVISION
THE Peerless-Electric® COMPANY
FANS • BLOWERS • MOTORS • ELECTRONIC EQUIPMENT
1506 W. MARKET ST. • WARREN, OHIO

For more details circle NED-672 M7 on enclosed inquiry slip

For lower snagging costs...

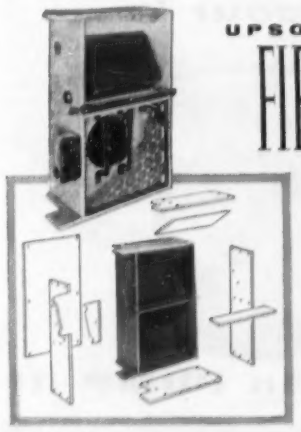
ATLANTIC
"Job-Mated"
GRINDING WHEELS

Time and again snagging costs have been reduced by the following ATLANTIC ABRASIVE formula: (1) a thorough analysis of specific snagging operations; (2) "mating" the grinding wheel characteristics to the job requirements.

RESULTS. Because ATLANTIC Resinoid-Bonded GRINDING WHEELS are "job-mated," they have a smooth, floating action that requires less pressure, thereby reducing operator fatigue, and they cut cleaner, faster and run cooler on job after job . . . reducing costs to a minimum. Prove it for yourself. Call your nearby ATLANTIC representative or write direct. Atlantic Abrasive Corp., 504 Pearl St., South Braintree, Mass.

ATLANTIC ABRASIVE CORP.
South Braintree 85, Massachusetts

For more details circle NED-673 M7 on enclosed inquiry slip



UPSON ENGINEERED
FIBERBOARD

creates a waterproofed air conditioning cabinet

cuts condensation troubles, deadens sound, provides easy installation

The EJAY Remote Heat and Cool Unit, manufactured by EJAY Baseboard Manufacturing Company, Winsted, Conn., is a typical example of Upson Fiberboard Engineering. Its toughness and resiliency; superior finishing and sound deadening properties improve product quality. This Fiberboard cabinet actually solves condensate troubles usually found in metallic cabinets. Each part was delivered by us *ready for production*. Punched, beveled and die cut. UPSON FIBERBOARD could be *your* answer, too. Choice of lengths, widths, thicknesses and surface textures. *Send this coupon for our free idea booklet.*

UPSON
94% Wood Fibers Laminated for Great Strength

THE UPSON COMPANY, Industrial Division, 169 Upson Point, Lockport, N.Y.
Send me free idea booklet and sample kit.

Name
Company
Position
Address Street City State

For more details circle NED-674 M7 on enclosed inquiry slip

if you're using special fasteners you should be using APEX SOCKETS

Today's assembly techniques frequently require special fasteners. On one application, speed may be important . . . on another, a resilient fastener may be needed . . . on still another, a self-locking or vibration-proof fastener is required.

Each application creates its own problem to be solved with a special fastener . . . and each special fastener can be run down—quickly, smoothly, economically—with an Apex socket specifically designed for the job.

Ask Apex for the answer to your fastening problem, special or standard. Write, on your company letterhead please, for Catalog 29-R.

Ask APEX for the answer to your fastening problem!

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

For more details circle NED-675 M7 on enclosed inquiry slip

FREE Sample and Booklet Shows How and Why
Give your machines a modern installation . . . it pays to anchor with Unisorb. Send reader service card, call or write . . .

FE 7-5

The FELTERS Company
224 SOUTH STREET, BOSTON 11, MASS.
Manufacturers of Felt and Felt Products
OFFICES: New York, Philadelphia, Chicago, Detroit, St. Louis
SALES REPRESENTATIVE: San Francisco
Representatives in principal cities throughout the world

For more details circle NED-676 M7 on enclosed inquiry slip

You can't pour it...

*

but you can PUMP it!

Are heavy materials a problem in your plant? Graco Powerflo Pumps may provide the answer. These pumps mount on pails or drums... easily spray or extrude thick compounds quickly, get all the material from original container.

Rugged Graco Powerflo Pumps eliminate messy dispensing by paddle or scoop. Air powered, they speed up production...cut waste... save labor...help improve plant "housekeeping". Write today for the Powerflo catalog.

* *Unretouched photo shows five gallon pail of heavy, nearly solid sealing material. A Graco Powerflo Pump successfully pumped it out of original pail.*

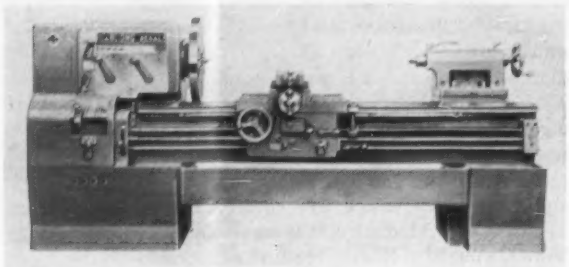
WRITE FOR DETAILS on Graco Lab test to check pumpability of your materials. Graco lab report furnished without obligation.

GRACO
GRAY COMPANY, INC.
Engineers and Manufacturers
127 Graco Square • Minneapolis 13, Minnesota
Regional Offices: New York (Long Island City), Philadelphia, Detroit, Atlanta, Houston, Chicago, San Francisco.

For more details circle NED-677 M7 on enclosed inquiry slip

21 & 24-IN. LATHES electric clutch and brake offered

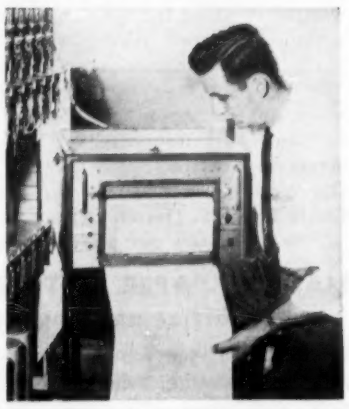
Standard 7½-hp motor and optional 10-hp drive for high speed ranges, electric clutch and brake, feed reverse at the apron, heat treated head gears, and



quick-change box and apron are offered on 21 and 24-in. Regal lathes. Both have a headstock with a combination gear-belt drive construction. Beds have hardened and ground replaceable steel ways. Both feed rod and preloaded precision leadscrew are provided for accuracy in thread chasing. Other design features are three-bearing spindle, automatically lubricated quick-change box, wide carriage bridge, and tailstock with plug clamping. Made by **R. K. LeBlond Machine Tool Co.**, 1950 Edwards Rd., Cincinnati 8, Ohio.

For more details circle NED-678 M7 on enclosed inquiry slip

100-CHANNEL RECORDER simultaneously records on-off data on chart with 16 fixed speeds

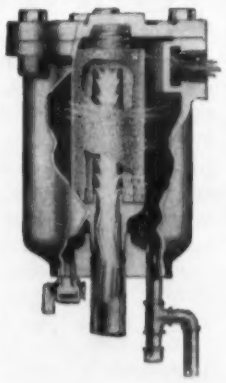


Up to 100 channels of on-off information is instantly and simultaneously recorded in permanent chart form by the Event Recorder. The events, their duration, and their correlation with other events as a function of time are indicated. On-off signals as short as 0.001 second can be recorded on the moving chart, governed by an electrically-controlled transmission.

Chart has 16 fixed speeds in a range from about 10 in. per second to 10 in. per day. Transport mechanism accuracy is within 0.25 per cent of line frequency. Device holds a 500-ft roll of chart paper and has an internal take-up mechanism. Chart can also be passed out of front of the instrument. Related analog data can be recorded simultaneously on the same time axis with Brush magnetic penmotors. Made by **Clevite Corp.**, Brush Instruments Div., 3405 Perkins Ave., Cleveland 14, Ohio.

For more details circle NED-679 M7 on enclosed inquiry slip

ADAMS PORO-STONE AIR FILTER, designed to remove oil, water and foreign matter from compressed air lines with minimum pressure drop.



The R. P. Adams Poro-Stone air filter is engineered to efficiently remove entrained oil, water and pipe scale from compressed air lines. Liquid droplets and solids being carried by the gas stream are first removed by centrifugal action in an annular chamber. Secondary filtration is achieved by passing the air or gas stream through a porostone unit. An automatic trap can be provided to discharge the residue from the cyclone chamber.

At rated capacity the filters operate at a maximum pressure drop of only ½ lb., thus insuring delivery of line pressure to the point of consumption.

The units require virtually no service or maintenance—thereby insuring continued trouble-free, low cost performance.

ADAMS Poro-Stone air filters are available from stock in sizes to suit your needs. For further information, write today for Bulletin 117, R. P. Adams Co., Inc., 227, East Park Drive, Buffalo 17, New York. *(Advt.)*

For more details circle NED-680 M7 on enclosed inquiry slip

For faster, lower cost assembly...

You'll get big savings on assembly operations with Stackbin Assembly Bins. Work station layouts are more efficient. Parts are kept close to worker's hands . . . reaching and fumbling is eliminated. Shallow angle lip is just right for finger tip control. Operators can select with both hands. Sloping bottom feeds parts continually toward the front. With adjustable hoppers, there are always plenty of parts when and where they're needed.

Stacking feature permits rigid setups, allows flexibility when layout is changed.

Stackbin Assembly Bins feature all-welded construction with smooth, folded edges. 6 sizes with straight or tapered sides. Also available with rear-loading feature.

WRITE TODAY for full information on the Stackbin System

Stackbin Corporation, 1081 Main Street, Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

STACKBIN SYSTEM "Stacked and Still Accessible"

For more details circle NED-681 M7 on enclosed inquiry slip

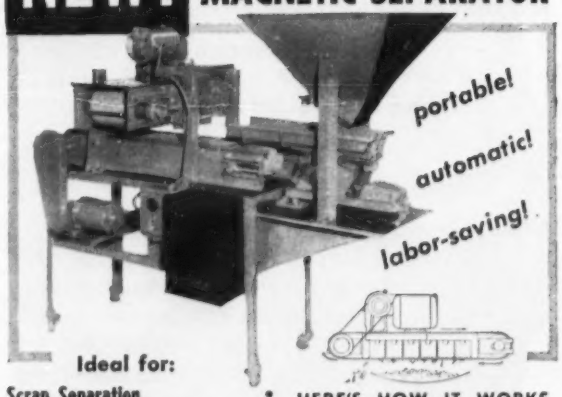
STAR PERFORMERS!

These burs are outstanding for their long life . . . economy . . . their ability to cut fast and cool. Made in two parts: cutting heads of tungsten carbide, necks and shanks of steel. S.S. WHITE CARBIDE BURS are available in a wide range of sizes and shapes for straight and right-angle handpieces. Write for Catalog DB.

THE S.S.White INDUSTRIAL DIVISION
10 East 40th Street, New York 16, N. Y.
Western Office: 1839 West Pico Blvd., Los Angeles 6, Calif.

For more details circle NED-682 M7 on enclosed inquiry slip

NEW! DINGS general-purpose MAGNETIC SEPARATOR



Ideal for:

Scrap Separation, Tumbling Barrel Applications

Just wheel this new Dings TBS all-purpose Magnetic Separator right up to the job! Quality of separation and product purity are improved because feed rate can be controlled and magnetic intensity adjusted.

HERE'S HOW IT WORKS

Dings TBS consists of a portable conveyor, hopper with adjustable gate, vibrating feeder, and a Self-Cleaning Perma-Plate Magnet. An even layer of material is fed to the conveyor, and as it passes under the magnet, iron is lifted to the moving crossbelt and discharged to one side.

New Dings TBS units are completely field tested for effective performance. Write for details in Bulletin 1215-A.

Dings

DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave., Milwaukee 46, Wis.

TBS-267 1/9

For more details circle NED-683 M7 on enclosed inquiry slip

Norgren

announces **NEW** advanced line of **AIR PRESSURE REGULATORS**

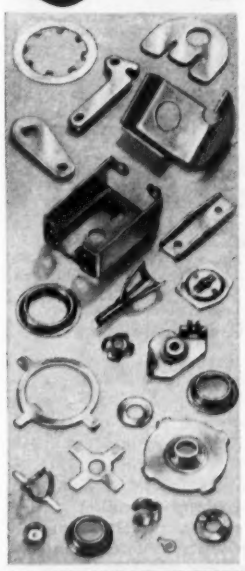
Write for New No. 800 CATALOG | More Accurate Control of Regulated Pressure | Greater Air Capacity (cfm)

C. A. NORGREN CO.

3405 So. Elati St. • Englewood, Colorado

For more details circle NED-684 M7 on enclosed inquiry slip

Quadriga® means Quality metal stampings



Quadriga specializes in the manufacture of custom-made stampings to close tolerances. Using the most advanced machinery and methods, Quadriga can provide the *exact* stamping required to fill your application—any metal, medium to high quantity runs. Depth of draw to 3½ inches—press. capacities to 150 tons.

Quadriga also manufactures custom-made flat, friction, tension and finishing washers as well as wire terminals in thousands of special sizes and shapes.

Send b/p or specs for estimate. Request catalog on your company letterhead.

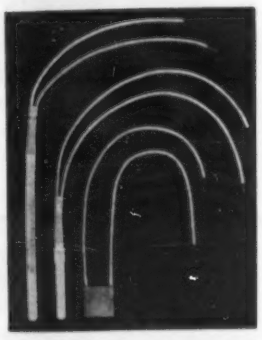
® Reg. U. S. Pat. Off.

THE Quadriga MFG. CO.

221 WEST GRAND AVE. • CHICAGO 10, ILL.

For more details circle NED-685 M7 on enclosed inquiry slip

MOLDED SILICONE HEATERS withstand continuous 200° C

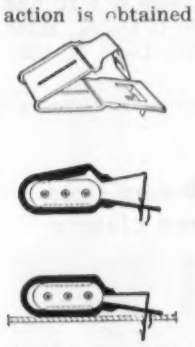


Small molded silicone rubber heaters were originally developed for use in the refrigeration industry to prevent undesirable ice-ball formation on refrigerator evaporator tubes. They withstand continuous operating temperatures of 200° C and are flexible and leak-proof. Wattages range from 1 to 100, depending upon size of heater and environmental conditions. Heaters can be produced in most moldable shapes for use in aviation, electronic, and instrumentation fields. Made by **Springfield Wire & Tinsel Co.**, Dept. NED, Box 638, Springfield, Mass.

For more details circle NED-687 M7 on enclosed inquiry slip

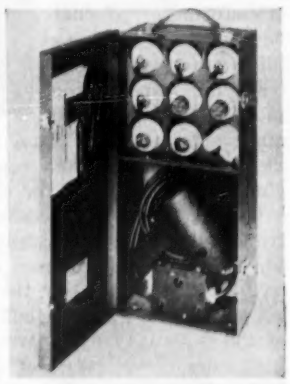
CORD-HOLDING CLIP for popular single, multiple sizes

Rapid assembly of popular single or multiple wire cord sizes for either strain relief or plain clamping action is obtained with the Speed Clip. Used on appliances and other products, it can be mounted before, during, or after assembly. Clip (top) is slipped over a wire and prelatched, or compressed to the first locking position (middle). Second locking step (bottom) forces the latching leg to catch the underside of the panel. Pressure against the leg releases the spring steel clip. Made by **Tinnerman Products, Inc.**, Dept. 14, Box 6688, Cleveland 1, Ohio.



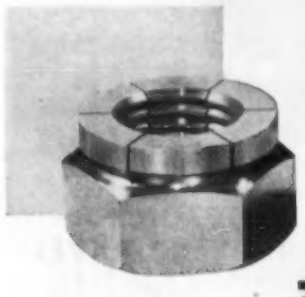
For more details circle NED-688 M7 on enclosed inquiry slip

FLAW TESTING KIT finds cracks, pores in small parts



All materials needed for fluorescent penetrant testing of parts, welds, or castings are provided in the ZA-43 portable Zyglo kit. It can be used for overhaul tests, especially of nonmagnetic parts, or for small volume in-production testing to find cracks, pores, or porosity. In addition to penetrant, cleaner, and developer contained in pressurized spray cans, steel carrying case contains high intensity black light for viewing fluorescent indications of defects. Offered by **Magnaflux Corp.**, 7316 W. Lawrence Ave., Chicago 31, Ill.

For more details circle NED-689 M7 on enclosed inquiry slip



specify standard FLEXLOC®

SELF-LOCKING NUTS

FLEXLOC DESIGN FEATURES

- one-piece, all-metal construction
- resilient locking section
- controlled locking torques
- lock and stop nut in one
- every thread carries its full share of load

DO YOU KNOW? Standard FLEXLOCS improve the finish of rough bolts. They smooth off rough threads. And the locking threads on all-metal FLEXLOCS are not chewed up when used on rough bolts. FLEXLOCS are stocked by authorized industrial distributors in a full range of sizes from #0 to 2". Write for Bulletin 866. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.

FLEXLOC LOCKNUT DIVISION **sps** JENKINTOWN PENNSYLVANIA

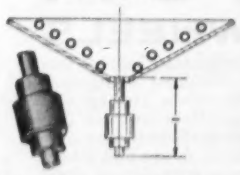
For more details circle NED-690 M7 on enclosed inquiry slip

The Lepel line of induction heating equipment represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for industrial heating.

If you are interested in induction heating you are invited to send samples of the work with specifications. Our engineers will process and return the completed job with full data and recommendations without any cost or obligations.

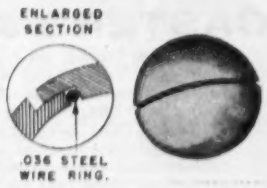
TYPICAL INDUCTION HEATING APPLICATIONS

TEMPERING FOR CUSTOM HEAT TREATING



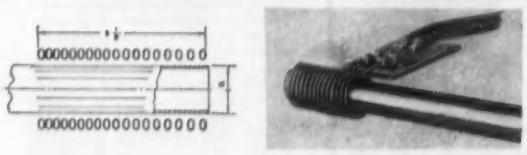
Selected areas of hardened steel parts may be tempered for fabrication or service requirements. Concentrator type coil permits high power density in restricted area thus minimizing heating time and permitting marked variation in properties in adjacent sections.

WIRE RING JOINS PLASTIC PARTS



High frequency induction heats wire ring which in turn heats plastic wall, providing sufficient plasticity to cause flow and bonding upon application of pressure. Metal to plastic seals are similarly performed.

ANNEALING ALUMINUM FURNITURE TUBING



Selective annealing of aluminum furniture tubing permits bending where required without loss of strength in adjacent portions of tube. Brass or steel tubing is also being selectively annealed.

Electronic Tube Generators from 1 kw to 100 kw. Spark Gap Converters from 2 kw to 30 kw.

WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information.

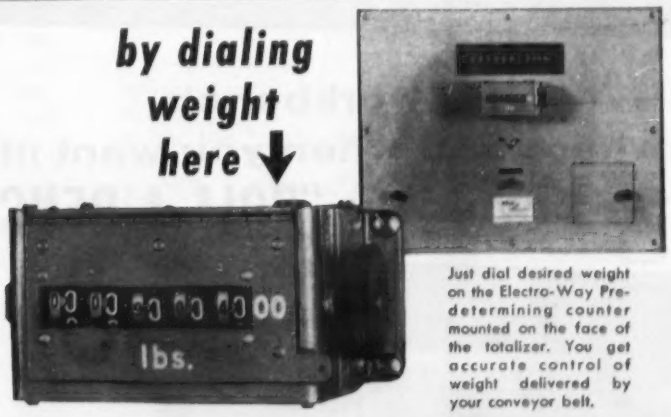
All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

LEPEL HIGH FREQUENCY LABORATORIES, INC.

55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

For more details circle NED-691 M7 on enclosed inquiry slip

by dialing weight here ↓



Just dial desired weight on the Electro-Way Predetermining counter mounted on the face of the totalizer. You get accurate control of weight delivered by your conveyor belt.

Knowing delivered weight can save money when conveying bulk materials into trucks, rail cars, or hoppers.

For example, when a prominent manufacturer of insulating materials installed an Electro-Way System on his carloading conveyor, he eliminated his overweight problem, and need for track scales—saving cost of a loading crew and switch engine time. He also cut down demurrage charges and gained accurate shipping and inventory information.

These features can automatically save you both hours and dollars

Accurate—The Electro-Way tells accurate weight instantly and continuously—or delivers a predetermined load, then shuts down conveyor automatically.

Compact—System has only 3 major components requiring no floor space or superstructure. Popular model weighs only 300 lbs.

Trouble-free—Equipment is dust-tight and protected against vibration, heat, cold and moisture. Designed for round-the-clock operation—inside or out.

Simple to install and maintain—Installation can be made by the customer, or by Bell Automation Corp., if desired. Only connections between components are electrical wiring. An Operational Analyzer permits quick check of operating performance. *Write today for complete information.*

BELL Automation corp.

Subsidiary of Bell Aircraft Corporation

BELL AUTOMATION CORP.

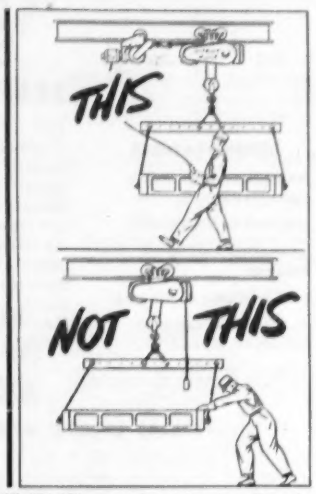
751 Monroe Ave., Rochester 7, N.Y.

For more details circle NED-686 M7 on enclosed inquiry slip

Trojan TRACTOR for POWER TRAVEL

Proven Money Saver In Hundreds of Instances. Ask for Trojan Tractor Bulletin 833

Make your hand pushed hoists and cranes power traveled. Eliminate slow pulling and pushing drudgery. Speed up handling, save time, increase production, reduce costs. Simply attach a Trojan Tractor; inexpensive, quick delivery. Order one today.

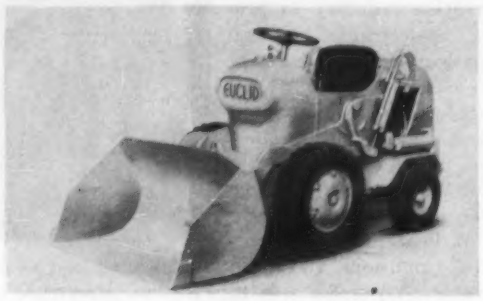


DETROIT HOIST & MACHINE CO.
Designers and Manufacturers of Hoists and Cranes since 1905
8214 Morrow St., Detroit 11, Mich.

▲ For more details circle NED-692 M7 on enclosed inquiry slip ▲

FRONT END LOADER
14 cu ft bucket lifts 3000 lb

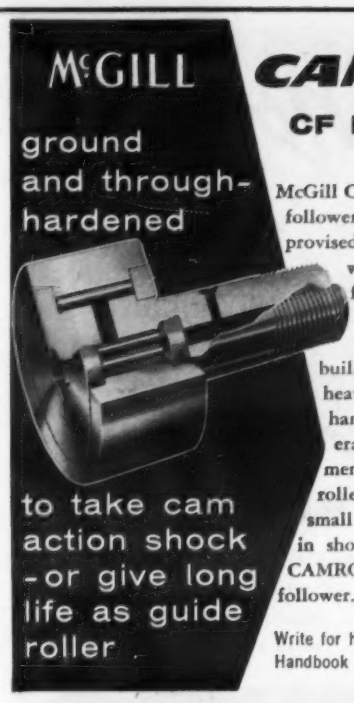
Exceptional maneuverability and versatility for intraplant material handling is featured by the Model L-7 rubber-tired front end loader. Unit has payload



capacity of 19 cu ft, struck capacity of 14 cu ft and maximum lift of 3000 lb. Compact design allows its operation in confined areas. Equipped with torque converter and power shift transmission having synchronized nonstop high-low shift, speeds range up to 11 mph forward or reverse. Loader has rear-wheel steering, front wheel drive powered by a 49-hp Continental gasoline engine, 6 ft 2½-in. turning radius, and 5-in. ground clearance. Wheel base is 4 ft, and overall length with bucket down is 10 ft 1½ in. Made by **General Motors Corp.**, Euclid Div., Dept. N, 1361 Chardon Rd., Cleveland 17, Ohio.

▲ For more details circle NED-694 M7 on enclosed inquiry slip ▲

McGILL CAMROL® CF BEARINGS



McGill CAMROL CF series cam follower bearings replace improvised bolt and roller units which are unsatisfactory for conditions usually found in cam follower applications. Precision built throughout, an extra heavy outer ring, through-hardened and ground, operates on a full complement of small-diameter rollers for high capacity in small space plus the ultimate in shock resistance. Rely on CAMROL, the original cam follower.

Write for helpful bearing Handbook No. H-54-B

McGILL® *precision needle bearings*

McGILL MANUFACTURING CO., INC.
101 N. LAFAYETTE STREET VALPARAISO, INDIANA

▲ For more details circle NED-697 M7 on enclosed inquiry slip ▲

Exclusive new Albion design permits greater versatility, capacity and longer wheel life.

with ALBION CASTERS & WHEELS

Eliminate "down time" maintenance while you keep your caster and wheel-mounted equipment rolling smoothly, quietly, effortless, throughout your plant. Simply order Albion Demountable Tire Wheels . . . the best engineered, field-tested and service proved method of saving floors and wheel replacement costs. Available in a choice of floor protective tires (425 to 1200 lbs. per wheel cap.), these wheels have rugged 12-gauge formed steel demountable side plates bolted over tubular steel axles and roller bearings secured by positive grease retaining cups. Better check on wheels today!

THE ULTIMATE IN SEALED CASTERS

Completely sealed casters that stay sealed! By incorporating precision moulded Synthi-Rubber ring gaskets around load raceways and wheel axle ends, formed steel, and a leak-proof grease retainer cup over thrust raceway—plus the finest caster frame and wheel available. Albion's engineers produced a sealed caster second to none. And—they're available in sizes or types to meet all of your needs.

Need "Specials" for Unusual Application?
Albion also specializes in building casters to suit unusual or extreme requirements—economically. See typical examples below.

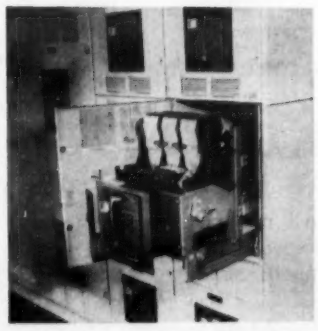
Wheel Brake and Swivel Lock Casters — Dual or Triple Wheel Casters — Pipe Base or Square Tube Casters — Giant Super-Duty Casters

Don't Wait... write today for information, prices and speedy delivery on Albion casters and wheels

ALBION INDUSTRIES, INC.
ALBION, MICHIGAN

▲ For more details circle NED-693 M7 on enclosed inquiry slip ▲

CIRCUIT BREAKERS
600-v 225, 600, and 1600-amp sizes have manual or motorized closure



Redesigned K line of low voltage power circuit breakers and switchgear incorporating them is applicable for switching, control, and protection of motors, generators, transformers, feeder circuits, and other large equipment. The 600-v units are offered in 225, 600 and 1600 ampere frame sizes. They feature quick-make manual closure of breaker contacts or a motor-driven stored energy system for electric breaker closure.

Overload trips are easily interchangeable. Small frontal area switchgear features closed-door draw-out for moving breakers from operating to test and disconnect positions within their enclosure without opening cabinet doors. Six subassemblies take the place of 130 separate major parts in previous models. Nine trip units cover range of continuous current rating from 150 to 1600 amp. An automatic trip indicator is incorporated in all models. Made by **I-T-E Circuit Breaker Co.**, 1900 Hamilton St., Philadelphia 30, Pa.

▲ For more details circle NED-695 M7 on enclosed inquiry slip ▲

FREE SAMPLE!

FLEXIBLE, LIQUID-TIGHT CONDUIT OUTLASTS ORDINARY METAL CONDUITS

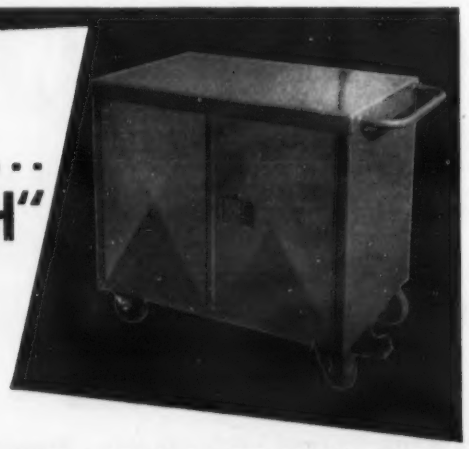
Sealtite* flexible, liquid-tight electrical conduit is rapidly replacing rigid conduit in many plants for certain installations. It's easier, less costly to install (especially in cramped spaces) and actually outlasts ordinary metal conduits in moist or corrosive atmospheres. A tough, extruded polyvinyl jacket seals out water, dust and corrosive fumes . . . protects wiring from weather, oil and chemicals. Sealtite can be installed indoors or out; is ideal where conduit must flex or be moved, absorb vibration or meet misaligned outlets. Write for free sample and Booklet S-537 giving full information. Address: *The American Brass Company, American Metal Hose Division, Waterbury 20, Conn.*

*Trademark 57197

SEALTITE flexible, liquid-tight conduit . . . AN ANACONDA® PRODUCT

▲ For more details circle NED-698 M7 on enclosed inquiry slip ▲

Now . . . a workbench where and when you want it! . . . THE NEW MOBILE "ROLL-A-BENCH"



7966-OK

A maintenance department on wheels! Here's a mobile workbench that can be rolled to work location by one man . . . with compartments for tools and spare parts . . . with doors that can be locked.

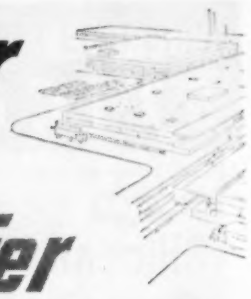
The ROLL-A-BENCH . . . all-welded 1/8-inch and 3/16-inch steel plate constructed . . . is capable of supporting up to 2000 pounds safely. Heavy-duty roller bearing wheels (hard rubber or phenolic resin) are furnished. A foot-operated locking mechanism securely positions the work-bench assuring stable working surface. Vise optional.

Write today for literature and prices or . . . CALL MOntrose 2-4242.

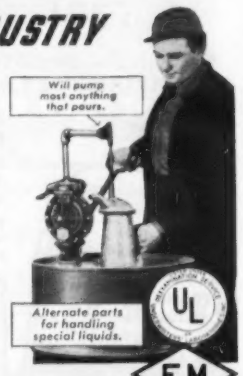
THE OVERBEKE-KAIN COMPANY
20979 Aurora Road • Bedford, Ohio

▲ For more details circle NED-696 M7 on enclosed inquiry slip ▲

Safer liquid transfer



for MODERN INDUSTRY



Want to handle industrial liquids with greater safety? Then install Tokheim hand pumps—specially adaptable to maintenance and production work. They help prevent spilling, slopping, over-filling, dripping. Your plant is kept cleaner—work is speeded—waste halted—accidents prevented.

Operating on both forward and backward strokes, these efficient pumps deliver 20 gallons per 100 strokes. Available with hose or spout outlets—also other interchangeable accessories. No plant should be without a battery of Tokheims.

Call your dealer, or Tokheim representative; write today for literature—including approved list of liquids.

QUALITY TOKHEIM HIGH-VACUUM HAND PUMPS

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Ave. Fort Wayne 1, Ind.
Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reader of Canada, Ltd., 205 Yonge St., Toronto, Ont.

▲ For more details circle NED-699 M7 on enclosed inquiry slip ▲

WHAT'S NEW IN MOTOR CONTROL?

NOW... PRESTEST THE SELF-TESTING SAFETY LIGHT

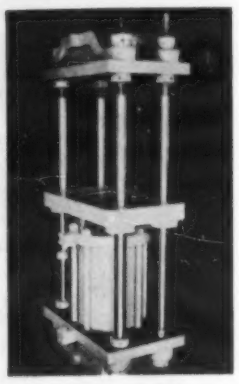
Indicating lights are vital to the safety and proper use of many machines, particularly in automation. But such lights always pose a troublesome question. When a light is "off," is it indicating a circuit condition . . . or is the bulb burned out? There is no guesswork with the new Cutler-Hammer PresTest Indicating Light. Merely pressing on the light lens disconnects the lamp from its operating circuit and checks it instantly on a continuously energized test circuit. So simple and easy, it ends the hazards of infrequent testing. PresTest lights are one-hole, oil-tight mounting. Available in both resistor and transformer types. For full information on PresTest and matching heavy duty pushbutton units, write today on your company letterhead for the Pushbutton Handbook Pub. EL-178. CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin.

CUTLER-HAMMER MOTOR CONTROL C-H

GET IT FIRST IN CUTLER-HAMMER

▲ For more details circle NED-700 M7 on enclosed inquiry slip ▲

HYDRAULIC PRESSES in 30 to 500-ton capacities

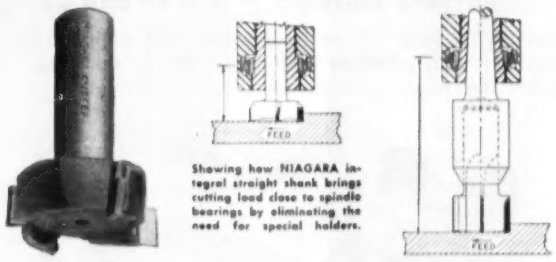


Structural strength, precision operation, and trouble-free cylinder design are featured by line of hydraulic compression molding presses for plastic and wood flour industries. Capacities range from 30 to 150 tons standard and up to 500 tons special. Presses are offered without controls and heating elements, or completely equipped to specifications. Special project engineering is available. Test of oil seal arrangement shows it has operated on 30 presses at 2500 psi, 24 hours a day, for 10 months without malfunction or downtime. Made by **Kohler-Joa Corp.**, Dept. A, Sheboygan Falls, Wis.

▲ For more details circle NED-701 M7 on enclosed inquiry slip ▲

CARBIDE FACE MILLS for vertical milling machines

Output of aluminum, brass, and steel parts on Bridgeport, Cincinnati, U. S. Burke, and other vertical milling machines can be increased with line of shank

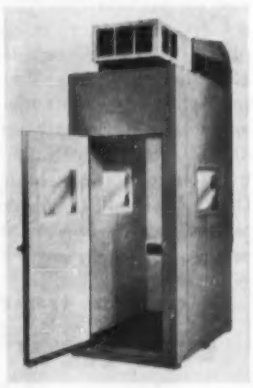


Showing how NIAGARA integral straight shank brings cutting load close to spindle bearings by eliminating the need for special holders.

type carbide face mills. Fourteen standard models with 1½, 2, and 2½-in. diameter cutters have integral ¾-in. straight shanks and over-all length of 2⅞ in. Stubby design eliminates need for special adapters or holders as the cutter is close to spindle bearings. Minimum overhang strengthens tool support. Carbide grade is selected for each type of stock to be machined. Made by **Bollier-Damerell, Inc.**, Niagara Cutter Div., 334 Niagara St., North Tonawanda, N. Y.

▲ For more details circle NED-702 M7 on enclosed inquiry slip ▲

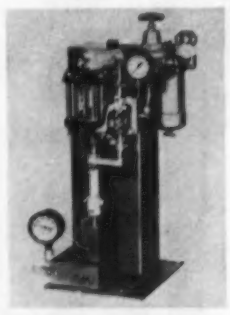
SOUNDPROOF BOOTH designed for audio testing



Typical of industrial sound control booths made by this company is this model for audio testing of roller bearings. Capable of isolating surrounding external noise, the illustrated unit is air conditioned for user comfort and measures 4½ x 3½ x 7 ft. The well-lighted inspection booth can be built in a variety of sizes to accommodate the intended use and plant layout. Made by **B & S Fabricators, Inc.**, Dept. SH, 29125 Groesbeck Highway, Roseville, Mich.

▲ For more details circle NED-703 M7 on enclosed inquiry slip ▲

AIR-HYDRAULIC CONVERTOR has 0 to 10,000 psi hydraulic range



Air pressures from 5 to 100 psi enable the automatic air-hydraulic convertor to develop a hydraulic range from 0 to 10,000 psi. The single, compact, air-operated unit incorporates a Renco-Aire microvalve air motor and hydraulic pump and reservoir. Variable stroke pump is instantly adaptable to any hydraulic requirement, taking up any loss in line pressure automatically. Line includes five models. Single-acting and compound cylinder pumps provide high pressure or dual pressure hydraulic output. Double-acting models and larger units rated to 30,000 psi hydraulic output are available. Made by **Renco-Toledo, Inc.**, Dept. NED, 3358 W. Alexis Rd., Toledo 13, Ohio.

▲ For more details circle NED-704 M7 on enclosed inquiry slip ▲

FREE ...and full of facts

Send for this aid to better surface grinding

Here's a handy-sized, easy-to-read book that tells you how to know your surface grinding machines and get the best service out of them.

Its 88 pages are illustrated and packed with helpful facts on operating different types of surface grinders, with valuable advice on wheel selection and trouble-shooting. Ask your Norton Distributor for it, or write to NORTON COMPANY, General Offices, Worcester 6, Mass. Plants and distributors all around the world. W-1792

NORTON ABRASIVES *Making better products... to make your products better*

NORTON PRODUCTS:
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BEHR-MANNING DIVISION:
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Signode ball-top table speeds strapping...simplifies handling

Put Signode ball-top tables in your packaging lines and watch output rise! These handy tables enable a worker to handle and strap heavy containers with greater ease and less fatigue. They are ideal, too, for use at independent strapping stations scattered throughout your plant. Use with other Signode high-speed strapping equipment to make your products cost less to handle, strap and ship. Write for details and prices.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices coast to coast.
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

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free catalog

47-page catalog illustrating complete line of

ALLEN AIR
AIR CYLINDERS
AIR VALVES & CLAMPS
DIAL FEED TABLES

The cylinder of "distinction" shown above is a Factory Reject. Only straight rods available.

THE A. K. ALLEN CO., 255 East 2nd St., Mineola, N. Y. NED-12
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Company _____
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SPEED HEAVY LOADS
from one floor level to another

ON THE LEVEL

You eliminate dangerous ramps and inclines . . . reduce breakage and accidents . . . save wasted labor motion . . . when a Globe Ramp Eliminator is on the job.

Installed quickly indoors or out. No major building changes. Standard components insure immediate shipment.

Sturdy hydraulic cylinder positions platform flush with lower or upper level. Maximum rise: 58". Powered by air-oil or Globe Oil Pump.

Write for complete data. Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.

GLOBE® RAMP ELIMINATOR

PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.

For more details circle NED-709 M7 on enclosed inquiry slip

For more details circle NED-710 M7 on enclosed inquiry slip

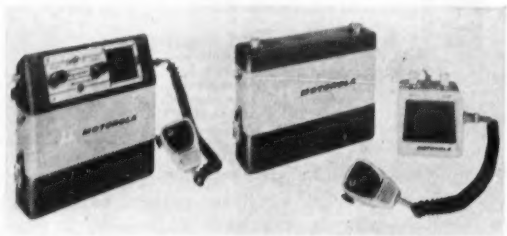
SOLID STATE BATTERY
supplies 1 x 10^{-9} amp for 176,000 hr

This Dynox 95 solid state battery has 1¼-in. length and ⅜-in. diameter, yet delivers a potential of 95 v. It can supply steady current of 1 x 10^{-9} amp for 176,000 hours at 70° F with voltage drop of only 10 per cent, or a flash current of 20 microamperes. Battery can be stored for 20 years without loosing its power. It resists extreme shock or vibration and will operate after temperature cycling between −100 to 170° F. Applications include power sources in missiles, avionics, alarm systems, instrumentation, telemetering, and capacitor charging. Batteries can be assembled to meet special dimensional and electrical requirements. Made by **Universal Winding Co.**, Paterson, Moos Div., Dept. 200, 90-28 Van Wyck Expressway, Jamaica 18, N. Y.

For more details circle NED-711 M7 on enclosed inquiry slip

2-WAY TRANSISTOR RADIO
for industrial vehicles with battery voltages of 6 v dc and up

Occupying only 1/5 cu ft of space, this compact Dispatcher transistorized radiophone can be installed on even the most cramped-for-space industrial vehicle.



Models are available for all battery voltages from 6 v dc on up. There is also a 117 v ac model. With a system in the 24-42 v range, normal operation for an 8-hr day requires less than 6 amp-hr. Radio and transmitter portions can be used with any of the various snap-on power supply packs, and are interchangeable. Voltage regulator in radio compensates for voltage fluctuations and drops.

Two available designs include the self-contained unit at the left for single mounting location near operator. The other, shown at right, separates radio set from speaker, microphone, and controls to comply with space considerations. Models powered by 12 v and up have 5 w audio output, while 6-v unit produces 3 w. Unit has shock mounting, rubber cushioned bracket, and weatherized construction. Models are offered in both 25-50 mc and 152-174 mc bands by **Motorola, Inc.**, Communications & Electronics Div., Dept. NED, 4501 W. Augusta Blvd., Chicago 51, Ill.

For more details circle NED-712 M7 on enclosed inquiry slip

REPLACE 42 SIZES WITH THESE TWO

NEW GIANT ALLOY adjustable wrenches

THINNER-LIGHTER-STRONGER

Until now 42 fixed size wrenches were needed to handle jobs done by these two *"Slim-Twin"* adjustable wrenches. Slim to permit easy access to tough jobs. Lightweight sturdy, high quality alloy steel for dependable service.

OA24-24" long, ⅞" thick with two jaws. Provides adjustments from 1⅜" to 2⅞" in ⅛" graduations. Extra jaw permits adjustments from 1 1/16" to 2 11/16" in 1/16" graduations. Weight, only 10 lbs.

OA36-36" long, 1⅛" thick. Adjusts from 2 11/16" to 4¾" in ⅛" graduations. Weight, only 22 lbs.

Save time and money with OTC "Slim-Twins"

WRITE FOR FREE BOOKLET

REPLACE 42 SIZES

OWATONNA TOOL CO.

436 CEDAR ST., OWATONNA, MINNESOTA

For more details circle NED-713 M7 on enclosed inquiry slip

WHEREVER SOMETHING STICKS

Alert Production Men Use

IMS **Silicone Spray!**

ON ROLLS — EMBOSSING and STAMPING DIES — ON PLASTIC — BRASS BEARINGS — ETC., ETC.

WHEREVER A CLEAN, EASY-TO-USE PERMANENT LUBRICANT IS NEEDED.

In modern production maintenance work, this pure silicone fluid is cutting rejects everywhere. Try it today. The most economical way to adapt the miracle low surface tension of silicone fluid to all your sticking problems.

PRICES: (delivered)
Single Cans, ea. . . $2.00
Unbroken dozen . .$18.00
Unbroken gross . $197.40

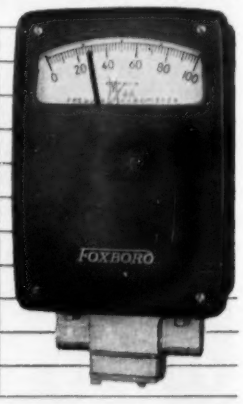
ORDER SOME TODAY!

INJECTION MOLDERS SUPPLY CO.
3514 LEE RD. CLEVELAND 20, O.

For more details circle NED-714 M7 on enclosed inquiry slip

Combines fine engineering *and* economy!

...new FOXBORO Pressure Transmitter



- **Scale easily readable at 20 ft.**
- **Standard time-proved component parts**
- **Simple calibration "on location"**
- **Compact integral instrument**

The new Foxboro M/44 Pneumatic Pressure Transmitter gives you a unique combination of fine engineering and economy. It's a compact, integral instrument . . . no attachments or "makeshifts." Utilizing standard, performance-proved Foxboro parts throughout, it assures you not only top performance, but easier stocking and servicing as well. "Convenience-design" makes calibration in the field a cinch. Drawn-steel, weatherproof, air-purged case with tough polyester plastic cover. A neat, high-efficiency, low-cost instrument for centralized operation or control. All standard ranges. Write for full details. **The Foxboro Company, 6612 Norfolk St., Foxboro, Mass.**

FOXBORO REG. U. S. PAT. OFF. **INSTRUMENTATION**

For more details circle NED-715 M7 on enclosed inquiry slip

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ALL NEW 1957 CATALOG... GREATER THAN EVER BEFORE FULLY ILLUSTRATED

THOUSANDS UPON THOUSANDS OF INDUSTRIAL, COMMERCIAL AND CONSUMER ITEMS AT GREATER SAVINGS THAN EVER BEFORE! New Merchandise! Top Quality GOV'T SURPLUS!

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ORDER YOUR COPY TODAY!

SAVE

2500 LB. LIFT HOIST

Ideal for use in garage, shop, boat yard, farm, on trucks, etc. Has bronze, worm gear drive with 24 to 1 gear ratio and 3-speed crank. Comes with 18 feet of 3/16" high tensile strength, steel cable and free-spool, pull-out clutch. . . . 34.95

MOUNTING FRAME – for above Hoist 4.50

NOTE: We carry a complete line of hoists from small portables to huge, heavy duty types. Write for details.

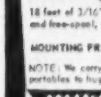
NEW HYDRAULIC PRESS CYLINDERS

Specially designed for press work. Sturdy tie-rod construction. Operates at 3000 PSI. Has 2-1/2" shaft.

Part No.	Bore	Stroke	Length	Price Each
PS-6-30	5"	4"	10½"	$ 89.50
PS-8-30	5"	8"	14½"	105.00
PG-6-30	6"	4"	10½"	107.50
PG-8-30	6"	8"	14½"	127.50

The 5" diameter cylinders above will develop up to 30 TONS THRUST at 3000 PSI. The 6" diameter cylinders up to 43 TONS. Check others in our stocks.

UNIVERSAL JOINTS



Has a heavy duty, solid cast Bronze body. Rotates from 90° to 180° as desired. Has 29/32" diameter steel shafts with a ball and socket joint. In excellent condition. Ready-to-use!!! 5.95

Write TODAY for complete list of many other types of universal joints, hoists, hydraulics, etc.

SPECIAL 180° OFFSET DRIVE

For use where tremendous power at a low take-off RPM is desired. Has 6 gears rotating on self-lubricating, hi-speed roller bearings. 85 to 1 gear ratio. Shafts are 1-1/4" and 3/8" diameter.

USED in good condition ONLY 5.95
NEW in excellent condition . . . NOW 8.95

SAVE ON STEEL CABLE

ALLOY STEEL — Finest quality Alloy Steel cable. Rust & corrosion resistant. 7 x 7 STRAND Size	Price per ft.	STAINLESS STEEL — Aircraft Quality. Rust & Corrosion Proof. You can not beat this Bargain. 7 x 19 STRAND Size	Price per ft.
1/16"	5¢	1/16"	7¢
1/32"	6½¢	3/32"	14¢
7 x 19 STRAND		5/32"	21¢
1/8"	9½¢	3/16"	23¢
5/32"	16¢	7/32"	29¢
3/16"	12½¢	1/4"	35¢
1/4"	13½¢	5/16"	47¢
9/32"	16½¢		

SAVE ON NEW NYLON ROPE

Very Finest Nylon Rope. Top Quality. Available in Sizes of 1/8" to 1" diam. Prices as low as 5¢ per running foot.

Palley's 2263 E. Vernon Ave. Dept. NED-12, Los Angeles 58, Cal.

Order from This Ad. Pay by M.O. or check. P.O.'s accepted from D&B firms. ½ deposit with C.O.D.'s. All Prices FOB Los Angeles.

For more details circle NED-716 M7 on enclosed inquiry slip

CHROMALOX ELECTRIC TUBULAR HEATERS

...bend to the shape you need

Here is your quick, efficient and economical answer to hundreds of electric heating problems. Clamp to metal surfaces, fit into machined grooves, cast into metals, immerse in liquids, install in ovens and ducts.

Versatile Chromalox Electric Tubular Heaters may be ordered in straight lengths or factory formed to nearly any shape required.

Select sheath metal and wattage to match your application and operating temperatures.

FREE—Send today for these 2 BIG HEATING HELPS

Catalog 50—describes complete Chromalox line of "packaged" heaters, elements and controls.

Booklet F1550—"101 Ways to apply Electric Heat."

See other ad on page 4

Edwin L. Wiegand Company
7509 Thomas Boulevard, Pittsburgh 8, Pa. C-2110

For more details circle NED-717 M7 on enclosed inquiry slip

new PAYMOVER tractors

...modern as your car

Because these new **"PAYMOVER"** tractors have ***fully automatic transmissions*** with torque converters, you now can have towing tractors that operate as easily as your automobile. They deliver an uninterrupted flow of power to start loads smoothly and, with controlled acceleration, keep them moving ***up to 20 MPH.*** All clutching and shifting is eliminated to save wear and tear on tractor, load and operator. ***Drawbar pull up to 6,000 lbs.*** These compact, gas-driven power packages have low center of gravity and wide-tread dual-drive wheels for ***stability.*** Easy acting ***hydraulic brakes, power steering, 10-ft. turning radius*** and ***unobstructed visibility*** for coupling and uncoupling loads qualify **"PAYMOVER"** tractors for work at yards, docks, terminals and warehouses.

You can be sure **"PAYMOVER"** design and performance is reliable. The military counterparts of these tractors have rolled up thousands of hours of satisfactory service on land and sea duty. For more information on **"PAYMOVER"** models T-50 or T-60 (5,000# and 6,000# drawbar pull) contact your Hough Distributor or write The Frank G. Hough Co., 746 Sunnyside Ave., Libertyville, Illinois.

PAYMOVER
MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY - INTERNATIONAL HARVESTER COMPANY
12-E-1

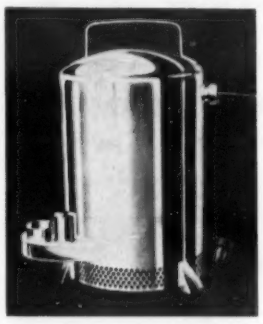
For more details circle NED-718 M7 on enclosed inquiry slip

TIME RECORDER
gives payroll and job cost records

Accurate, indisputable records of wages paid for hours worked are provided by the Model JE-4000 Jobmaster time recorder. The 5⅜ x 9⅜ x 10¼-in. recorder features automatic electric printing, a metal case, and a Vis-A-Card locator. It can be wall-mounted or used on a desk, table, or bench top to provide payroll and job cost records. Synchronous motor drive for alternating current circuits or master clock operation are available. Made by **Cincinnati Time Recorder Co.,** 1726 Central Ave., Cincinnati 14, Ohio.

For more details circle NED-719 M7 on enclosed inquiry slip

SUBMERSIBLE SUMP PUMP
handles 50 gpm at 6 ft head



An automatic switch turns on this stainless steel submersible sump pump when water reaches a predetermined depth. It shuts off when water is completely pumped from sump. Pump is 12 in. high, has 6½-in. diameter, and has 1¼ in. I.P.S. discharge. Powered by ⅓-hp 120-v Westinghouse motor, it will pump 50 gpm at 6-ft head. Pump is adaptable for use in basements, tanks, elevator pits, excavations, and boiler-room pits. UL-approved cord is 8 ft long. Made by **R. S. Corcoran Co.,** Dept. 10, Box 1404, Joliet, Ill.

For more details circle NED-720 M7 on enclosed inquiry slip

COMBINATION DRILL & REAMER
in ⅛ to ⅝ in. sizes

Combination high speed steel drill and reamer, the Dreamer, eliminates need for two setups and double handling in precision drilling and reaming operations. Tool has ground flutes, with tolerances held to within ±0.0001 in. Sizes from ⅛ to ⅝ in. in increments of 1/64 in. are available from stock. Tools can also be furnished according to users' specifications and are packaged individually in plastic containers. Made by **Custanite Corp.,** Dept. N, 1228 Utica Ave., Brooklyn 3, N. Y.

For more details circle NED-721 M7 on enclosed inquiry slip

GASKETS · SHIMS WASHERS

From 1 to 1 Million

No matter what type, thickness, shape or quantity required, you can count on Chicago-Wilcox for uniformly accurate gaskets, shims, washers or special stampings.

With 50 years accumulation of dies, chances are we can furnish just what you need without a die charge—thus reducing costs substantially and assuring on-schedule delivery.

Gaskets, shims and washers can be supplied in metallic, non-metallic and plastics . . . teflon, nylon, etc. . . . and in quantities to meet your production requirements.

Write for catalog and submit your specifications for quotation.

CHICAGO-WILCOX MFG. CO.
7713 South Avalon, Chicago 19, Illinois

For more details circle NED-722 M7 on enclosed inquiry slip

REVERSING RAM MAKES DIE CHANGES EASY

This ruggedly built press is an operator's delight. It is provided with a reversing ram drive which permits backing the ram or upper die away from the work at any point in the stroke.

The reversing ram speeds positioning dies when starting a new job. It is a great help in adjusting the ram to obtain a specified bend or shape. Rating of above press is ½" x 14'-0" steel, but it will bend plate to 18'-6".

STEELWELD BENDING PRESSES CATALOG No. 2010

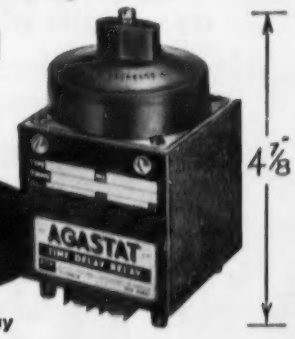
Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
6664 E. 281st St., Wickliffe, O.

STEELWELD PRESSES

For more details circle NED-723 M7 on enclosed inquiry slip

Time delays in automation circuits



AGASTAT

Time / Delay / Relay

When automatic machinery and circuits must be timed with repetitive accuracy (from 0.1 second to ten minutes or more) you'll find a sure, reliable answer in AGASTAT electrically-actuated pneumatically-timed time delay relays.

The AGASTAT is
- light, versatile, dependable.
- unaffected by voltage variations.
- instantaneous recycling.
- available in models which offer delays on energizing and de-energizing, two-step delays, manually-actuated time delay switch, remote push button control.

WRITE **our application engineers for help with your timing problem. Address Dept. A23-125**

AGA DIVISION
Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing.

For more details circle NED-724 M7 on enclosed inquiry slip

Gage small parts quickly and economically with the KODAK CONTOUR PROJECTOR, Model 8

Here's a portable, bench-type comparator that gives you the speed, economy, and precision of optical gaging at moderate cost. With little training, operators can inspect all sorts of stampings, screw machine and similar parts completely, accurately, and quickly.

The Model 8 can be used for either vertical or horizontal projection with the shadow image always erect and right-reading. Interchangeable lenses give a choice of any of six for magnifications from 10× to 100×.

For details on the Kodak Contour Projector, Model 8, and how you can use it, send for the booklet, "Projection Gaging with Kodak Contour Projectors." Write *Apparatus and Optical Division.*

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

Kodak

For more details circle NED-725 M7 on enclosed inquiry slip

ANOTHER PANNIER MASTER MARKER!

PANNIER'S SUPREME HOLDER WITH ROTO-PIN LOCK

Safe, fast type changing. Holder in variety of styles. Machined from High-Grade Bar Tool Steel. Hardened anvil maintains type alignment. Striking Head of Tool Steel . . . Replaceable to add long service life to Holder.

New Roto-Pin type lock is integral part of *all* Pannier Supreme Holders . . . eliminates loose, bent, dropped, or lost pins . . . flip it open to change type . . . flip it back to securely lock type in clear-marking position.

Write for complete data.

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MARKING PANNIER DEVICES

THE PANNIER CORPORATION

301 Pannier Building • FAirfax 1-5185 • Pittsburgh 12, Pa.

Offices: Los Angeles • Chicago • Cleveland • Philadelphia

For more details circle NED-726 M7 on enclosed inquiry slip

Sales volume up . . . net profit down . . .

why not do something about it?

Cut material handling costs with MOTO-TRUC

Pallet Type "Walkie" truck 4000-6000 lbs. capacity

MOTO-TRUC will be one of the best investments you ever made. Modern functional design and rugged dependability assure lowest operating costs. Small size and easy maneuverability enable MOTO-TRUCs to work efficiently in tight spots where larger trucks can't.

MOTO-TRUC builds only the rugged, powerful, quick moving "Walkie" and "small rider" trucks. Any business with material handling problems regardless of its size, needs MOTO-TRUCs.

MOTO-TRUCs' many exclusive and important features insure efficient and economical operation, and many, many years of faithful service.

Help to lick old man "overhead" by putting MOTO-TRUC on the job. Your local Dealer will give you full details. He'll be glad to help you solve your material handling problems.

Hi-Lift "Walkie" Type 3000-4000 lbs. capacity

Platform "Walkie" Type 4000-10,000 lbs. capacity

Grip-All Tractor

We'll be glad to send you catalog No. 56W Walkie Trucks and No. 56R Rider Trucks upon request.

Builders Of The The First Walkie Truck

The MOTO-TRUC Co.

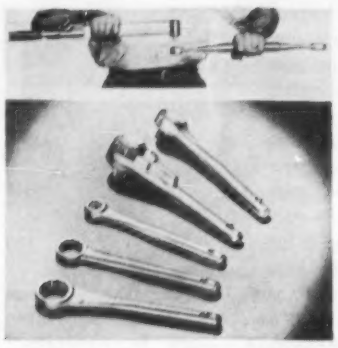
1961 E. 59th St. • Cleveland 3, Ohio

Pallet . . . Platform . . . Hi-Lift Trucks

Representatives in Principal Cities

For more details circle NED-727 M7 on enclosed inquiry slip

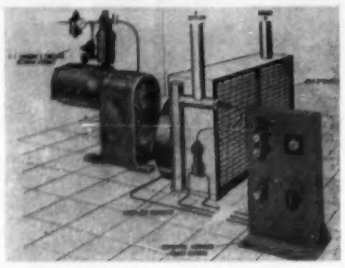
MULTIPURPOSE TORQUE WRENCH
adapter increases range to 900 lb-ft



Adapter accessories for conventional low-capacity torque wrench make it possible to increase its torque capacity two to three times. Normal 150, 200, and 300 lb-ft torque wrenches can be respectively increased in torque capacity to 300, 400, and 600 or 900 lb-ft. Accessories include a basic multipurpose adapter arm and adapter drive ends in box, ratchet or conventional drive square styles. Box end openings are offered from ¾ to 2½ in. Adapter can be used as an ordinary hand tool, and torque wrench attached to it for the final torque tightening. Made by **P. A. Sturtevant Co.**, 333 W. First Ave., Elmhurst, Ill.

For more details circle NED-728 M7 on enclosed inquiry slip

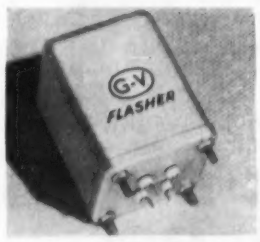
TEMPERATURE CONTROL SYSTEM
holds product heat within 1 per cent



A U. S. Varidrive equipped with a Varitrol automatic control, a temperature sensing transmitter, and a control panel comprise the pneumatic Varitrol temperature control system. This automatic system provides controlled variable speed for fans or pumps in heat exchange processes and will hold product output temperature constant within 1 per cent. It can be used in conjunction with heat exchange systems operating at up to 1000-psi pressure. A gas-filled stainless steel bulb in the transmitter senses the desired temperature and generates a proportional pneumatic signal to the variable speed drive. It speeds up or slows down, depending on required correction. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

For more details circle NED-729 M7 on enclosed inquiry slip

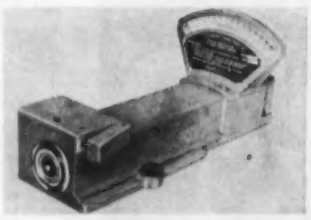
HEAVY DUTY FLASHERS
withstand aircraft vibration, shock



Type BF flasher for aeronautical and industrial service is designed for 2-amp loads at 120 v ac or 32 v dc. Unit combines two thermal relays and one magnetic relay hermetically sealed in a circuit in which load current is handled by the magnetic relay. On and off cycle is governed by thermal relays and is unaffected by load current or load contact erosion. The single-pole double-throw flasher is compensated for − 65 to 125° C ambients. Standard units are offered for 26.5-v dc and 115-v ac energization and for 20, 60, and 90 flashes per minute with equal on and off times. Made by **G-V Controls Inc.**, 30 Hollywood Plaza, East Orange, N. J.

For more details circle NED-730 M7 on enclosed inquiry slip

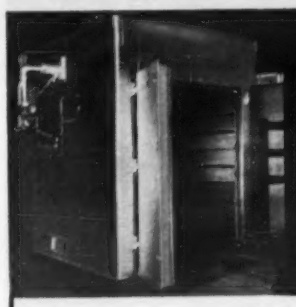
TORQUE ANALYZERS
developed for power screwdrivers



Operator of a power screwdriver can use the Model P-15 torque analyzer to determine whether the tool releases at a constant torque value, or whether it fluctuates and delivers a variety of torque values. Utilizing a torsion bar with dampening effect, its needle indicator retains the torque value reading until released. The 20-lb device has a 0 to 150-lb-in. capacity, 5/16-in. hexagon drive, and a 7-in. long dial. Size is 18 x 5 x 8 in. A dead weight test wheel is furnished. Made by **Richmont Inc.**, Dept. NED, 922 S. Myrtle Ave., Monrovia, Calif.

For more details circle NED-731 M7 on enclosed inquiry slip

NOW! A TRULY VERSATILE STANDARD KILN TYPE OVEN



FOR
- BAKING
- HEATING
- DRYING
- CURING

MOCO has incorporated many custom, money-saving features into this standard oven — using gas fuels or electricity.

They offer *maximum temperature uniformity* and *complete safety equipment* at amazingly low initial cost. You can depend fully on a MOCO-engineered product!

MORE INFORMATION?

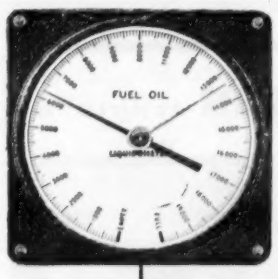
If you are in the market for a standard oven, be sure and send for this informative brochure.

MOCO

MICHIGAN OVEN COMPANY

419 Brainard, Detroit 1, Mich.

For more details circle NED-732 M7 on enclosed inquiry slip



100% AUTOMATIC TANK GAUGING

Dependable remote reading tank contents gauges using a closed hydraulic transmission system. No power required.

Several sizes available. Approved by Underwriters Laboratories and Factory Mutual. UL approved switches.

Write for complete details, to Dept. H

Since 1920 of proven quality

THE LIQUIDOMETER CORP.

LONG ISLAND CITY 1, NEW YORK

For more details circle NED-733 M7 on enclosed inquiry slip

Free Brochure

Describes New Non-Skid Relgrit® Ladder Rungs

A complete new line of non-skid Relgrit* abrasive embedded rungs for fixed ladders is described in this brochure. The Relgrit surface is absolutely skid proof even when wet, oily or grease covered, and will outlast steel without any loss of its non-skid qualities.

Rungs are available for embedding in concrete, for bolting or welding to walls, and for attachment to stringers. The line also includes both fixed and detachable steps for utility poles. Rungs are suitable either as replacements or for new ladders in all types of structures.

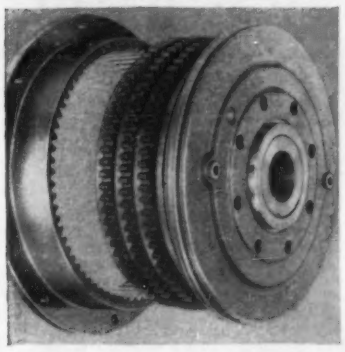
For complete information on these safety rungs, write for the brochure. Reliance Steel Products Company, P.O. Box 510-M, McKeesport, Pa.

**patents applied for*

For more details circle NED-734 M7 on enclosed inquiry slip

NEW LOW COST INDUSTRIAL AIR CLUTCHES

TWIN DISC CLUTCH COMPANY
Racine, Wisconsin

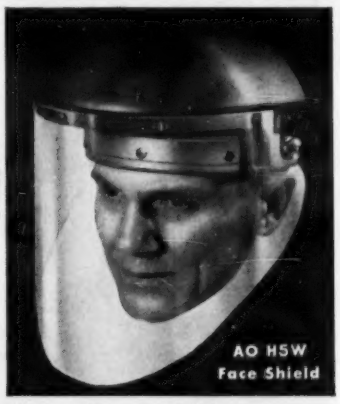


Three new air clutches in 8, 10 and 11½-inch sizes are now offered by Twin Disc Clutch Company at a cost up to 40% less than similar units. The new models are designed specifically for industrial applications requiring small physical size combined with high torque capacity. They are available in triple-plate, double-plate and single-plate construction. Maximum torque rating is 3480 lb.-ft. An exclusive feature is their cartridge-type diaphragm of reinforced neoprene which eliminates air leakage. Another feature is that they are self-compensating for wear, thus providing constant torque capacity at all times, without adjustment. They are unusually compact and narrow and ideal for replacement of old-style band and drum clutches. Rugged construction is another company feature along with clutch mass properly balanced to friction area for longest life on high energy loads. Release is unusually fast due to low volume air requirement. Air pressure to 130 psi may be used with these clutches.

The three new clutches, while differing in some design features, are additions to the time-tested, job-proved line of Twin Disc PO Air Clutches. The complete line now extends from 8-inch diameter sizes to 36 inches, with torque capacities to 127,100 pound-feet. Twin Disc Clutch Co., Racine, Wis. *Advt.*

▲ For more details circle **NED-735 M7** on enclosed inquiry slip ▲

LIGHT! → COMFORTABLE! → DURABLE! →



AO "H" Series Face Shields!

Features a spark deflector which blocks foreign matter from entering on top . . . a window with adequate clearance over nose and safety glasses . . . a slotted snap fastener which by allowing for heat expansion, eliminates wear at holes, and cracking, warping and distortion of face shield windows. Recommended for eye and facial exposures to metal sawing, chemical operations, buffing, sanding, light grinding, light bulb and glass bottle making, radio and TV tube exposures, bottling operations. Your nearest American Optical Safety Products Representative can supply you.

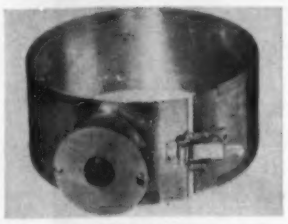
American Optical COMPANY SAFETY PRODUCTS DIVISION

Always Insist on Trademarked Safety Products.

SOUTHBRIDGE, MASSACHUSETTS • *Branches in Principal Cities*

▲ For more details circle **NED-736 M7** on enclosed inquiry slip ▲

CONTAINER HEATING ELEMENT
facilitates melting of contents



Standard 5-gal, 11¼-in. diameter, straight side steel pails or containers holding waxes, resins, adhesives, oils, and nonvolatile chemicals can be heated by the Wrap-It-Heet PH-5 heating element to help remove contents. Watt density of element is extremely low to prevent burning the material. This element is rated 1250 w at 115 v and is suitable for alternating or direct current operation. It is equipped with a three-heat switch and a spring loaded snap latch for easy fitting to, or removal from container. Made by **Acra Electric Corp.**, 9909-A Pacific Ave., Franklin Park, Ill.

▲ For more details circle **NED-738 M7** on enclosed inquiry slip ▲

TRIGGER-SWITCH
rated 10 amp at 125 v ac

This momentary-contact Type R Trigger-switch in a pistol-grip handle is installed at the end of a heavy-duty cable and facilitates control of electric circuits in mobile equipment, or where operator needs freedom of movement. Switch is waterproof, has adjustable trigger travel, and is rated 10 amp at 125 v ac at 0.80 power factor. The double-pole, single-throw, normally-off action has spring return. Unit can be supplied with four-conductor cable (No. 14 AWG wire) of any specified length by **Electro Switch Corp.**, Dept. NED, 167 King Ave., Weymouth 88, Mass.

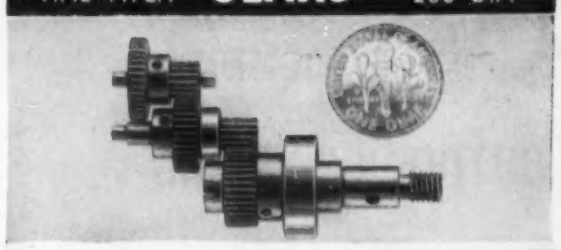
▲ For more details circle **NED-739 M7** on enclosed inquiry slip ▲

BRIGHT BEAM LAMP
for inspection and assembly work

Optically designed for all close-work operations, this Bright Beam lamp gives brilliant, uniform illumination, free from shadows and bright spots. Vibration resistant, yet fully adjustable, lamp will deliver a spot of light ranging in diameter from ⅝ to 3 in. merely by sliding the focus tube back and forth. Equipped with bulb and daylight filter, it lists for $27.50. Offered by **Edmund Scientific Co.**, 180 E. Gloucester Pike, Barrington 25, N. J.

▲ For more details circle **NED-740 M7** on enclosed inquiry slip ▲

FINE FINE PITCH **GEARS** 20 to 200 D.P.



SPECIAL GEARS
COMMERCIAL AND PRECISION

SPECIAL GEAR BOXES
ENGINEERED AND BUILT
TO MEET YOUR REQUIREMENTS

STOCK GEARS
20 to 64 D.P.

Arizona Gear & Manufacturing Co.
3544 East Ft. Lowell Road
Tucson, Arizona

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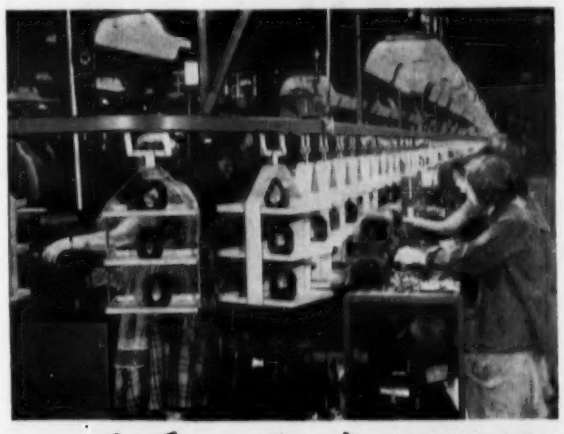
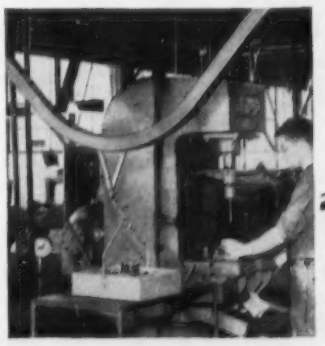
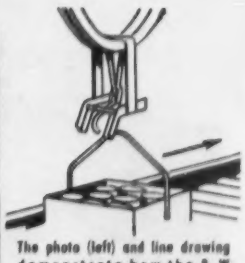


R-W "Zig-Zag" CONTINUOUS POWER CONVEYORS

provide real automation for COST-SAVING OPERATION!

The above photo illustrates how various materials handling problems on the machining and assembly lines were effectively solved, for an electric motor manufacturer, with R-W "Zig-Zag" Conveyors. "Stuffing-Trays" carry a continuous supply of work to assemblers seated on both sides of a huge bench and just as easily carry the finished assemblies on to other operations in the plant. This "Zig-Zag" system utilized available overhead space to increase production efficiency and provides for a saving of valuable floor space. R-W "Zig-Zag" Conveyors are flexible, easy to install, easy to alter or expand, economical to operate and offer longer, safer, more efficient materials handling service on any production line.





The photo (left) and line drawing demonstrate how the R-W "Zig-Zag" Conveyor automatically picks-up full trays and automatically deposits them at the unloading station. Machine operator starts cycle by merely sliding full trays into the conveyor path.

WRITE TODAY—for complete information request Catalog No. A-93R.

Richards-Wilcox MANUFACTURING COMPANY
MATERIAL HANDLING DIVISION

435 W. THIRD STREET • AURORA, ILLINOIS

▲ For more details circle **NED-742 M7** on enclosed inquiry slip ▲

Switch TO **CINCINNATI HYDRAGUIDE TRACER LATHE**
for lowest-cost parts duplication . . .

Hydraguides are built in 15" and 18" swing sizes and a wide variety of center distances. Tracer mechanism is also available for 15" and 18" Model LE Tray-Top engine and toolroom lathes now in service.

Just push the button on these new Cincinnati Hydraguides® to provide lowest-cost tracer machining . . . yet, there is no interference with standard lathe operation.

The entire tracer mechanism is on the carriage—no added floor space is required. All controls, template and tool are on the front side for maximum safety and convenience.

With all the proven Tray-Top features—PLUS an increase to 5 HP— it's *still* an ECONOMY-PRICED lathe.

See your C L & T Dealer. Write today for catalog H-150.

CINCINNATI LATHE AND TOOL CO.
3207 Disney Street, Cincinnati 9, Ohio
Engine, Toolroom, Tracer and Fixed Gap Bed Lathes and a Complete Line of Drilling Machines

▲ For more details circle **NED-737 M7** on enclosed inquiry slip ▲

63300C

PHOTOELECTRIC CONTROLS for OUTDOOR LIGHTING

64401

Fisher-Pierce photoelectric controls provide dependable, automatic control of lights regardless of time of day, season or weather. Lights are switched on at the same daylight value each day, off when daylight returns. Non-mechanical, they never need setting or re-setting, even after power failures. The basic F-P circuit has proven dependable, rugged and trouble-free by more than nine years' use, in controlling lights on aircraft obstructions, signs and in store windows; in parking, loading and storage areas; in street lighting and other installations. Load capacities from 300 to 6000 watts; integral and auxiliary protective devices; wide variety of mounting arrangements; SPST, SPDT, DPST contacts; turn-on settings from 1 to 500 foot-candles.

Write for descriptive bulletins, outlining your requirements.

THE FISHER-PIERCE CO., INC.
86 PEARL STREET, BOSTON 85, MASS.

For more details circle NED-743 M7 on enclosed inquiry slip

GAY-LEE CARBIDE "THINSAWS"

FOR SAWING, SLOTTING, SLITTING

For fast, precision sawing, slotting or slitting, use a Gay-Lee "Thinsaw." Even when wafer-thin for delicate work, these saws maintain positive alignment and rigidity for full-depth cutting without run-out. Carbide tips for speed and long life, brazed into a special, patented seat that holds them firmly. Thickness as low as .030", thickness tolerance held to .0001", O.D. 1¼" to 10". For ferrous, non-ferrous, plastics, etc. Any tooth form available. Send details of your problem for recommendation and quotation.

Patented—Manufactured under license.

**With Gay-Lee patented construction, brazed teeth with circular seat definitely will not break loose from saw body.*

GAY-LEE COMPANY
CLAWSON • MICHIGAN

For more details circle NED-744 M7 on enclosed inquiry slip

CUTS DEBURRING and CHAMFERING COSTS...

PINES TUBE AND ROD END-FINISHING MACHINE

- Fast, Easy to Operate—Clamps, Feeds, and Gauges Depth of Cut in Single Stroke.
- Interchangeable Tool Bits, Holders, Chuck Inserts.
- Combines Inside-Outside Deburring and Facing in Single Operation.
- Compact, Portable—Takes up Small Space.
- Other Models Available for Work up to 5" Diameter.
- Automatic Air-Operated Units and Specials to Suit Higher Production Needs.

(Above) Model 600 Machine has 8-speed step sheaves (760 to 3920 RPM), pivoting stock stop. Clamps and feeds work to rotating cutters. Capacity up to 2" O.D. Average production: 600-800 tube ends per hour.

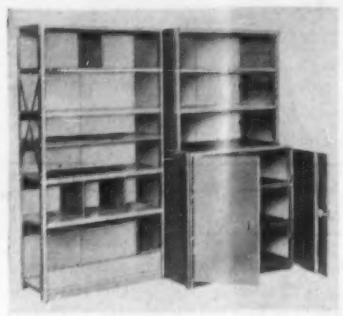
WRITE FOR COMPLETE DATA— New Catalog illustrates cost-cutting features, gives production data and complete specifications.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 441 WALNUT • AURORA, ILLINOIS

PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

For more details circle NED-745 M7 on enclosed inquiry slip

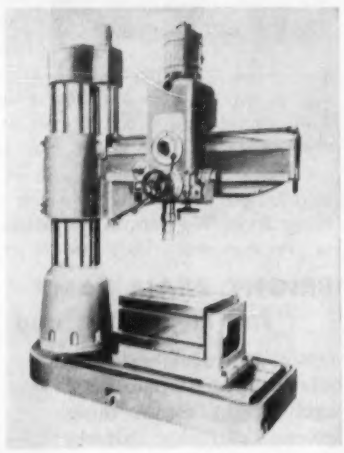
ADJUSTABLE STEEL SHELVING assembled with screwdriver, wrench



Line of adjustable steel shelving to meet virtually every storage need includes plain shelving in 240 different size combinations and ledge shelving in 735 combinations. Open type shelving with posts, shelves, and braces only; closed type with posts, shelves, backs, sides, partitions, and bases; and a closed type with the same equipment, plus doors and locks, are offered. Constructed of heavy gage steel, all parts are finished in baked enamel over an zinc-iron-phosphate undercoat. Shelves and dividers are interchangeable and adjustable on 1-in. centers. Screwdriver and wrench are only tools needed for assembly. Made by **Alan Wood Steel Co.**, Penco Metal Products Div., Dept. NED, 200 Brower Ave., Oaks, Pa.

For more details circle NED-746 M7 on enclosed inquiry slip

RADIAL DRILLS feature eight feeds and twelve speeds from 43 to 2400 rpm



Preselectors, electric pushbutton controls and feather-touch handling are standard features of Speedmaster radial drills which range from 3 ft x 11 in. up to 12 ft x 28 in. Ribbed box-type arm, hardened ways, hardened chrome-nickel shafts and gears, and antifriction bearings rotating in an oil bath are also featured. Units have eight feeds and twelve speeds from 43 to 2400 rpm. Feed is by both hand and power.

Spindle can be stopped instantly by electromagnetic brake. Instant reverse is effected by built-in electric control. Mechanical preselector allows rapid selection of speeds without stopping drilling operations. Electric pushbutton controls located in center of hand traverse wheel instantly lock or unlock arm and head, either individually or simultaneously. Ammeter provides constant readings of electrical load during varying drilling pressures. Distributed by **S & S Machinery Co.**, New Equipment Div., 146 53rd St., Brooklyn 32, N. Y.

For more details circle NED-747 M7 on enclosed inquiry slip

Widest Choice of SHEET RUBBER at the RIGHT PRICE

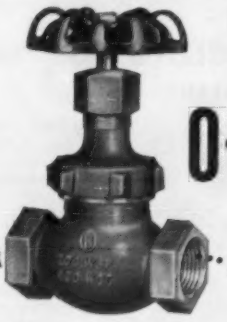
- All types
- Right prices
- Good delivery
- E-Z-TO-READ price list.

We have been a recognized and reliable source of supply on sheet rubber for many, many years. We can QUICKLY furnish Pure Sheet as well as Cylinder Spring, Press Die Pads, Switchboard Matting and electrically conductive rubber. We are a medium size concern and consequently MORE FLEXIBLE in making or shipping WHAT you want, WHEN you want it and at the RIGHT price.

WRITE FOR THIS RUBBER PRICE LIST. It's so simple to follow, so profitable to read. No tricks! No special discounts! Just right prices!

BUFFALO WEAVING & BELTING COMPANY
210 CHANDLER ST.
BUFFALO 7, N. Y.

For more details circle NED-748 M7 on enclosed inquiry slip



A NEW O-B VALVE

to lick your throttling problems

Try this new O-B Plug Type valve where throttling is a problem . . . watch how it gives long and satisfactory service.

Here's why!

Seat and disc in this valve are stainless steel, hardened to 500-plus Brinell. They are so tough that even hard-to-hold steam can be kept under close control. Sand, scale, or other foreign matter is easily crushed between seat and disc without scoring the surfaces when valve is closed.

Available in globe and angle types for 150 lbs. and 200 lbs. WSP.

For further information contact the O-B distributor in your area, or write to Ohio Brass Company, 380 North Main Street, Mansfield, Ohio.

4732-V

O-B VALVES Ohio Brass MANSFIELD OHIO, U. S. A.

For more details circle NED-749 M7 on enclosed inquiry slip

Keep plant space flexible with BLAW-KNOX Electroforged® Steel Grating

If expanding production set-ups are cramping feeder and storage areas in your plant, it will pay you to check into Blaw-Knox Electroforged Steel Grating.

Storage platforms of Blaw-Knox steel grating put unused space to work easily, economically. There's nothing to wear, nothing to patch. Blaw-Knox Electroforged grating fits neatly around pipes, beams and machinery without any alterations to the building, and, at the same time, admits maximum light and ventilation.

Blaw-Knox Electroforged Grating for walkways, stair treads and floors is fabricated to your specifications to meet your own operating conditions. Complete data on all types is contained in Blaw-Knox Bulletin No. 2527. Write for your copy today.

BLAW-KNOX COMPANY
BLAW-KNOX
Equipment Division
Dept. F, Pittsburgh 38, Pa.

For more details circle NED-750 M7 on enclosed inquiry slip

A simple, direct reading on the Alnor Velometer gives you an instant measure of air flow speed through grilles, ducts, furnaces, spray booths, or in the open.

Precision-built and self-contained, this portable instrument brings laboratory standards to the line or field installation. Available in a wide variety of scale ranges, full assortment of jets and fittings. You'll want all the facts (no safety department should be without a Velometer). Get Bulletin 2448-G. Attach this ad to your letterhead and mail to: Illinois Testing Laboratories, Inc., Room 529, 420 No. LaSalle St., Chicago 10, Illinois.

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

Alnor

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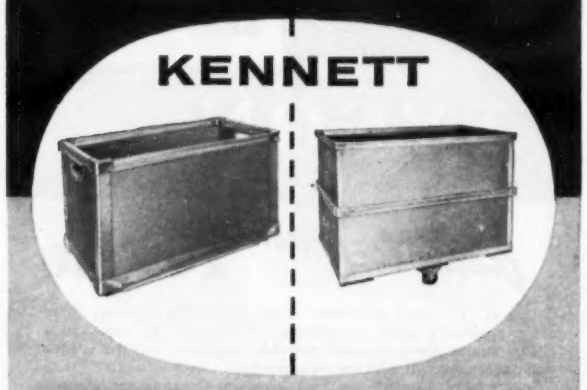
NATIONAL VULCANIZED FIBRE

KENNETT



MATERIALS HANDLING RECEPTACLES

strong • smooth • light • sanitary
will not dent—crack—corrode

Available in a wide variety of sizes and styles for every materials handling need.

Write for descriptive bulletin "Materials in Motion"—

NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE, U.S.A.

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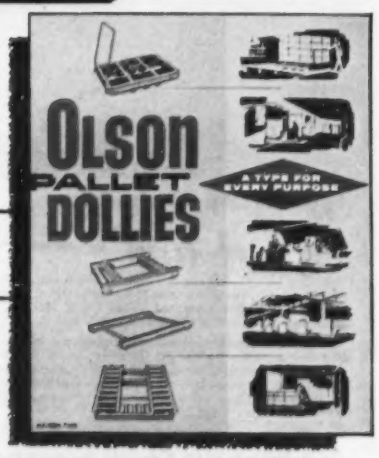
Get this CATALOG now!



APPLICATION TIPS

MONEY-SAVING IDEAS

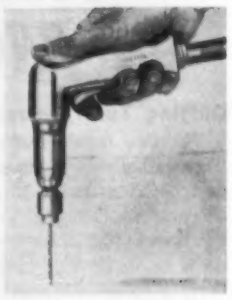
NEW DESIGNS

Write today for your copy of the new Olson Pallet Dolly catalog. Illustrates the complete line, showing applications, new uses, new designs. Before you buy another pallet dolly, see what Olson has to offer. There's no obligation!

Olson Conveyors
SERVING AMERICAN INDUSTRY SINCE 1900
SAMUEL OLSON MFG. CO., INC.
2439 BLOOMINGDALE AVE.
CHICAGO 47, ILLINOIS
Offices in Principal Cities

▲ For more details circle NED-753 M7 on enclosed inquiry slip ▲

PORTABLE AIR DRILL
develops speeds to 38,000 rpm



Light, compact, high speed Model 300 pneumatic drill has a 5/32-in. diameter capacity and is equipped with a Jacobs keyed chuck. Only 6 in. long and weighing 26 oz, this tool develops speeds to 38,000 rpm. It is particularly suited for drilling plastics and nonferrous metals. Made by **Airetool Mfg. Co.**, 308 S. Center St., Springfield, Ohio.

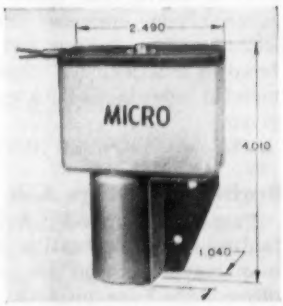
▲ For more details circle NED-754 M7 on enclosed inquiry slip ▲

HAND PALLETIZING STATION
loads 2 tons on 48 x 48-in. pallets

Hand palletizing operations are facilitated with this Erecto pallet turntable. It speeds operation by uniformly positioning the pallet, and also provides two surfaces for locating cases on the pallets. This assures stable load and minimizes product damage. Unit handles both two and four way pallets up to 48 x 48-in. size, with loads up to 4000 lb per pallet. Platform rotates on six heavy duty casters with less than 30-lb effort. Price is $395. Made by **Lamson Corp.**, Dept. C18, Syracuse 1, N. Y.

▲ For more details circle NED-755 M7 on enclosed inquiry slip ▲

INERTIA SWITCH
actuated by any horizontal thrust



Automatic 1SA1 inertia switch is actuated by any thrust, impact, or excessive vibration in a horizontal direction. It provides full-time protection for unattended industrial equipment, sensing trouble and shutting off a machine or sounding an alarm. Once actuated, it remains operative and must be manually reset by a button. Thrust under a minimum duration of 1/30 second will not actuate the switch. Force-of-actuation settings from 1.5 to 10 G or more are available. The 1-amp 6-v dc contacts are single-pole normally closed type. Other circuits and capacities are available. Made by **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

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NOW! Adjustable Diameter and Open

THOMSON BALL BUSHINGS

The BALL Bearing for all your LINEAR MOTIONS

LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

The various types cover a shaft diameter range of ¼" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings . . . Sleeve Bearings of DuPont NYLON

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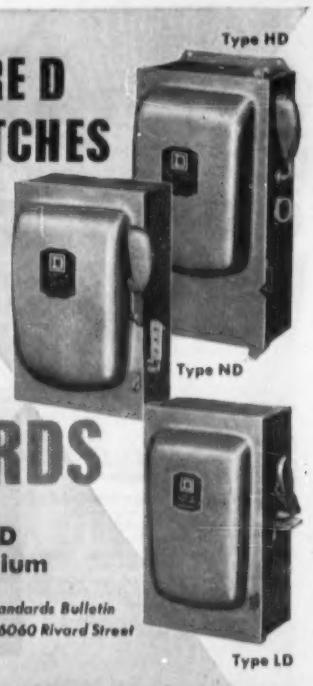
GET SQUARE D SAFETY SWITCHES and benefit from the NEW NEMA STANDARDS



Types HD, ND, LD at no cost premium

Write for New NEMA Standards Bulletin
Address Square D Company, 6060 Rivard Street
Detroit 11, Michigan

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

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MORE STRIKING POWER!

C/R

SOFT HAMMERS

C/R Jawhead Hammers are the best "soft" hammers you can buy. They speed work, reduce fatigue and increase safety — and never mark or spoil finished work. Oversize solid hickory handles are longer, stronger with heads locked on for life. They'll actually save you money in better work and longer life.

C/R RAWHIDE FACES: made of specially processed water buffalo rawhide compressed to size under hydraulic pressure. No other known material will transmit greater striking power.

NEW! NYLON FACES: for all C/R Hammers, interchangeable with rawhide faces. Unusually resistant to heat, oils, moisture and most acids.

Buy C/R Jawhead Hammers from your local industrial supplier — or write for this illustrated brochure.

CHICAGO RAWHIDE MANUFACTURING COMPANY
1271 Elston Avenue Chicago 22, Illinois
In Canada: Distributed by Chicago Rawhide Mfg. Co. of Canada, Ltd., Hamilton, Ont.
Export Sales: Geon International Corp., Great Neck, New York

HAMMER C/R DIVISION

CHICAGO RAWHIDE

▲ For more details circle NED-759 M7 on enclosed inquiry slip ▲

CUTS COSTS

SMOOTH ROLLING NOISELESS CASTERS
with double ball bearing swivels

. . . your most *economical* buy because they are longer-wearing, offer completely dependable, trouble-free performance, thus making them *lowest in cost to service*. Don't waste your "replacement" dollars on casters of questionable service value. Specify J & J casters, the smoother-rolling, longer-rolling, cost-controlling kind.

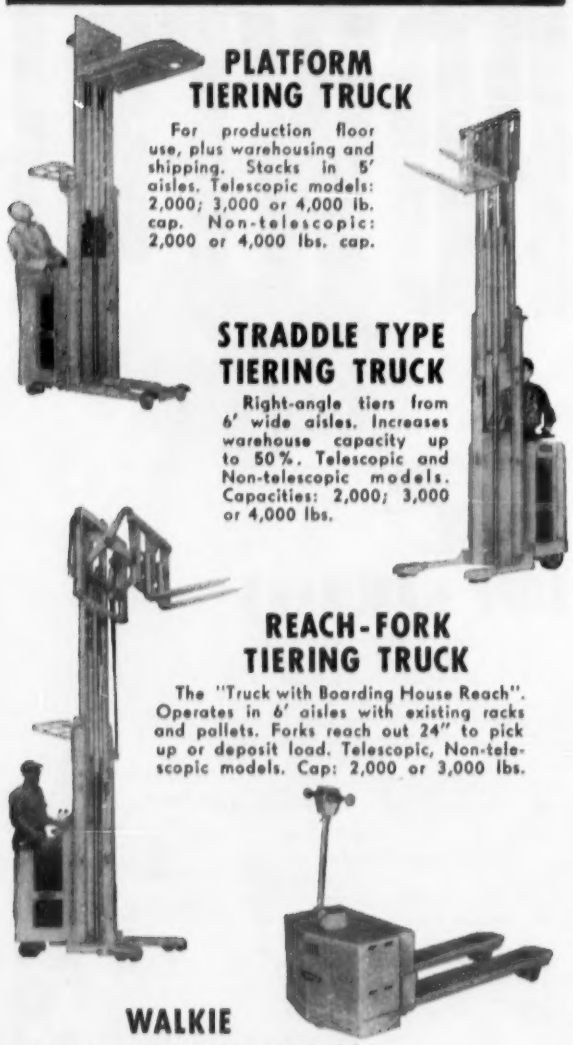
Distributed nationally

Jarvis & Jarvis, Inc.
PALMER, MASSACHUSETTS

In Canada: Jarvis & Jarvis of Canada, 1744 William St., Montreal, Quebec

▲ For more details circle NED-760 M7 on enclosed inquiry slip ▲

RAYMOND ELECTRIC TRUCKS



PLATFORM TIERING TRUCK

For production floor use, plus warehousing and shipping. Stacks in 5' aisles. Telescopic models: 2,000; 3,000 or 4,000 lb. cap. Non-telescopic: 2,000 or 4,000 lbs. cap.

STRADDLE TYPE TIERING TRUCK

Right-angle tiers from 6' wide aisles. Increases warehouse capacity up to 50%. Telescopic and Non-telescopic models. Capacities: 2,000; 3,000 or 4,000 lbs.

REACH-FORK TIERING TRUCK

The "Truck with Boarding House Reach". Operates in 6' aisles with existing racks and pallets. Forks reach out 24" to pick up or deposit load. Telescopic, Non-telescopic models. Cap: 2,000 or 3,000 lbs.

WALKIE

Operates on 4 auto batteries. Packs twice the power of ordinary walkies—12 volts for normal use, 24 volts for extra power. 3 speeds, exclusive safety control, 4,000 lb. capacity.

MAIL THIS COUPON

The RAYMOND CORPORATION
4129 Madison St., Greene, N.Y.
Please send Bulletins on RAYMOND Electric Trucks checked below:

☐ Straddle Type Tiering Truck ☐ Walkie Electric Truck
☐ Reach-Fork Tiering Truck ☐ Platform Tiering Truck

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-761 M7 on enclosed inquiry slip ▲

New Literature and Catalogs

Cutting Tool Research Results

Anyone concerned with shaping of metal by turning will find practical guidance on carbide tooling and techniques in 32-page illustrated manual entitled, "Practical Cutting Tool Research." Illustrated with photographs, charts, line drawings, and graphs, this data book covers the application of modern tool materials to production metal turning. Time-saving tips are given to increase production and cut machining costs. Available only by writing to Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

▲ For more details circle NED-762 M7 on enclosed inquiry slip ▲

Dust Collector

Dust Suppression & Engineering Co.—Air Tumbler dust collector described in 12-page illustrated Bulletin 551 is a wet dynamic unit which separates dust from air by centrifugal action and uses water to entrap the dust. Air handling capacities range from 1800 to 30,000 cfm. Removal is in form of sludge. Technical details of various models, their capacities, and applications are given.

▲ For more details circle NED-763 M7 on enclosed inquiry slip ▲

Machine Tool Controls

True-Trace Sales Corp.—Details of continuous and intermittent positioning systems, hydraulic tracers, numerical controls, and programming consoles are presented in illustrated 20-page bulletin "Machine Tool Controls." Hydraulic cylinders, power units, hydraulic milling spindles, coolers, and mounting brackets are among accessories covered.

▲ For more details circle NED-764 M7 on enclosed inquiry slip ▲

Flexible Power Transmission Shafts

B. W. Elliott Mfg. Co.—Seven sizes of standard flexible shafts for power transmission range from ¼ to 1¼-in. diameter and are described in 12-page Bulletin 250. Bronze and ball bearing types are offered in four lengths. Scale drawings of each, recommended speeds and torques, and other details are given.

▲ For more details circle NED-765 M7 on enclosed inquiry slip ▲

Drafting & Artists Aids

Para-Tone Inc.—Zip-A-Tone screens, dot patterns, textured and decorative patterns, color sheets, and map symbols; Para-Tipe self-adhering type faces; and other Para-Tone products for the draftsman and artist are illustrated in 36-page bulletin. How to use them in various types of work is related.

▲ For more details circle NED-766 M7 on enclosed inquiry slip ▲

Storage Racks

Tube-Strut Corp.—An illustrated 24-page booklet, "Be Your Own Storage Rack Expert," relates how storage racks are easily built from ordinary pipe and a simple universal clamp. Racks for pallets, drums, bar stock, or general purpose use can be made.

▲ For more details circle NED-767 M7 on enclosed inquiry slip ▲

Flow Regulators

Waterman Engineering Co.—High performance flow regulators for airborne equipment with flow rates to 10 gpm at 3000 psi are described and illustrated in 8-page bulletin. Why they are used, their principle of operation, performance standards, and other details are included, along with diagrammatic sketches.

▲ For more details circle NED-768 M7 on enclosed inquiry slip ▲

Stainless Steel & Nylon Fasteners

Anti-Corrosive Metal Products Co.—138-page catalog contains prices, stock, and delivery information on line of stainless steel and nylon fasteners. Included are bolts, nuts, screws, and washers. Set-up charges and prices are given on nonstock items.

▲ For more details circle NED-769 M7 on enclosed inquiry slip ▲

Stainless Steels

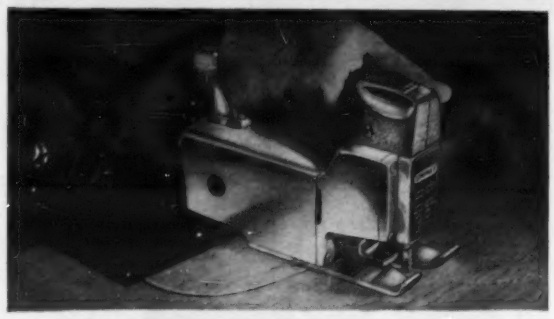
Sharon Steel Corp.—Descriptions of various grades of stainless steel, their composition, strength factors, physical properties, and typical applications are included in 32-page illustrated brochure. Thirteen types are detailed.

▲ For more details circle NED-770 M7 on enclosed inquiry slip ▲

Wire Forming Machines

Penn Machinery Co.—Four airpowered bender models, electrically operated chopper-trimmer, and ¾-hp ring roller are wire forming machines detailed in illustrated 4-page folder. Capacities of each are given.

▲ For more details circle NED-771 M7 on enclosed inquiry slip ▲



This new Stanley Sabre Saw makes all kinds of cuts in all kinds of places

A heavy-duty precision tool

Introductory price . . . only $54.50

This portable power saw cuts 2" lumber, plywood, sheet metal, plastics, etc. with 21 different blades. And the blades have 25% longer life because they have a 25% longer stroke.

Stanley H75 Sabre Saw makes all kinds of cuts in all kinds of places . . . plunge cuts, right up to a wall, sharp curves, tight corners. A complete assortment of blades available. See your industrial supply distributor now.

Stanley Electric Tools
A Division of The Stanley Works
New Britain, Conn.

STANLEY

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flexible plastic TUBING

Tygon Tubings combine true flexibility, glass clear transparency and exceptional resistance to corrosion. The many formulations provide superior service under a wide range of service conditions.

Some formulations are tasteless, odorless, non-toxic for high purity solutions such as plasma, drugs, liquid foods and milk products. Others handle corrosive gases and liquids and are chemically inert to attack by acids, alkalies, oils and alcohol. Still others withstand pressures to 300 p.s.i. or full vacuums. All formulations are physically tough, withstand rough usage and provide longer useful service.

Tygon tubings are installed in minutes. Cleaning is simplified by the highly polished bore. Fifty-five sizes from 1/16" through 3" provide a size for virtually every use.

Send for Bulletin T-97 today.

Plastics and Synthetics Division
U. S. STONEWARE
AKRON 9, OHIO 387E

▲ For more details circle NED-773 M7 on enclosed inquiry slip ▲

they stopped shouting

"Shut that ---- door!"

"As soon as the trucks had gone, the whole shipping room used to yell 'Shut that—door!' . . . that is, until we installed that big Wing Door Heater. Now, nobody notices whether the door is open or closed."

That's the experience of every user of Wing Door Heaters. These heaters automatically go into action, throwing down a curtain of hot air that stops the chilly breezes right at the doorway. They save time and money by eliminating work slow-down and employee complaints. They cost relatively little to operate, because they run only when you need them.

Do you have an "open door" problem? Send for Bulletin DH-2A.

L. J. Wing Mfg. Co. 165 Vreeland Mills Road · Linden · N. J.
DIVISION OF AERO SUPPLY MFG. CO. INC. In Europe: WARSON, Haren Nord, Brussels, Belgium

Wing
·HIGH VELOCITY DOOR HEATERS

FANS • UNIT HEATERS • DRAFT INDUCERS • BLOWERS • TURBINES

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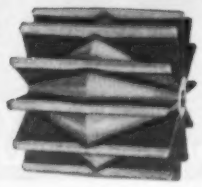
DESIGNED TO CUT BELT COSTS

SPROUT-WALDRON

BELT-SAVER PULLEYS



Write for Bulletin 33-C

The life of conveying belts can be increased from 50% to 400% with unique Belt-Saver Pulleys in installations handling sharp lumps and abrasive materials. Such materials slide away from the pulleys because of the special cone and wing design so belts cannot be damaged. For applications ranging from the handling of stone and gravel to wood chips and foundry sand, Belt-Savers are big money savers.

Sprout-Waldron also offers a full line of cast-iron pulleys for transmission and conveyer use that provide top economies. Write for details.

IN/500

SPROUT-WALDRON
Manufacturing Engineers Since 1866
8 LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

For more details circle NED-775 M7 on enclosed inquiry slip

EVERY ENGINEER will want a copy of this BULLETIN

WRITE FOR BULLETIN 113. Complete details and mounting dimensions on Hannifin Series "H" Square Type Hydraulic Cylinders—2,000 p.s.i. (3,000 p.s.i., non-shock) maximum pressure. This is the cylinder with the new, externally removable cartridge gland...the biggest improvement in cylinder design in the last 50 years. A complete line! 9 bore sizes from 1½" to 8"...13 standard mountings, many combinations. Steel heads. Steel cylinder bodies, "TRU-BORED" and honed. Piston rods ground, polished and hard chrome plated. Send for Bulletin 113. It's an easy, convenient catalog for use in layout work.

HANNIFIN

Hannifin Company, 527 South Wolf Road, Des Plaines, Ill.
Air and Hydraulic Cylinders • Presses • Air Control Valves

For more details circle NED-776 M7 on enclosed inquiry slip

New Processes and Materials

STEEL CONTROL CABLE
with nylon or vinyl coatings

Hi - Fatigue preformed galvanized steel aircraft cable is available with either vinyl or pure nylon coatings for added resistance to wear, bending, sun, weather, oil, and gas. Coatings reportedly will not check, crack, peel, or separate from the cable. Cable is strength-tested to over 1000 lb and is made in various sizes and strengths. Most popular sizes for steering and remote control applications are 3/32 x 5/32-in. and 3/32 x 5/16-in. diameters. It is offered in 35 and 60-ft coils, and on black enameled steel reels in 250 and 500-ft lengths. Made by **Macwhyte Co.**, 2932 14th Ave., Kenosha, Wis.

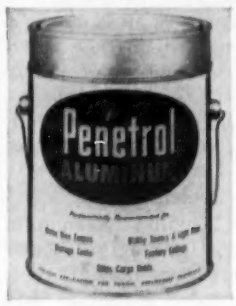
For more details circle NED-778 M7 on enclosed inquiry slip

RELEASE PAPER
for interleafing of tacky surfaces

Chemically treated on one or both sides, Daubert release paper can be used for interleafing of rubber, rubber products, tapes, tile, composition shingles, and other items having tacky surfaces. Paper allows ready separation of such products at time of application. Sheet is supplied in 36-in. wide rolls, 200 yd long, but can be slit or sheeted to order. Made by **Daubert Chemical Co.**, Dept. NED, 333 N. Michigan Ave., Chicago 1, Ill.

For more details circle NED-779 M7 on enclosed inquiry slip

ALUMINUM COATING
flakes add to rust control



Protective properties of Penetrol are combined with those of aluminum in Penetrol Aluminum, a protective finish for fences, tanks, towers, factory ceilings, and ship cargo holds. Package contains 1¾ lb of aluminum paste in top compartment and 1 gal of Penetrol in lower part of can. Material flows on and bonds well to vertical or horizontal surfaces. It sets slowly, remaining fluid for at least 1 hour to provide ample time for leafing and film leveling. Hardening occurs within 24 hours. Made by **Flood Co.**, Dept. NED, Hudson, Ohio.

For more details circle NED-780 M7 on enclosed inquiry slip

Veelos Knocks Out Belt Vibration... Up To 90%!

HERE'S PROOF! With an electronic vibration analyzer, your Manheim Veelos representative can measure the exact vibration in your machines. This test is absolutely free and is offered as conclusive proof that Veelos Adjustable V-Belts are better for your drives.

TEST YOUR BELTS! Test Veelos belts against the V-belts you're now using—convince yourself, in this 15 minute test, that Veelos cuts V-belt vibration up to 90%. Smooth running Veelos saves you money by cutting down bearing wear, work spoilage, etc.

Write for free Vibration Demonstration or Free Veelos Data Book to:

MANHEIM
MANUFACTURING & BELTING CO.
605 Stiegel St., Manheim, Penna.

Veelos is known as Veelink outside U.S.A.

For more details circle NED-781 M7 on enclosed inquiry slip

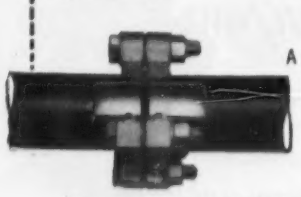
NOW YOU CAN

CARRY A SPARE...
for rubber lined piping systems

Rubber lined piping has more than proven its superiority in thousands of anti corrosion and anti abrasive applications. However, as in any piping system, occasional repairs are necessary.

Heretofore, these repairs meant shutting down the line, sending detailed drawings for new pipe and an indefinite period of waiting during which both production output and financial income suffered.

Now, with the La Favorite "Fieldlink"® method of joining rubber lined pipe, the ailing section, whether it be a single section, or hundreds of feet, can be easily replaced without so much as the loss of a days production.



A pressure proof connection can be effected in only 2 minutes the Fieldlink way.

Prepared pipe and fittings are available from stock in 20 foot lengths. Additional lengths can be quickly prepared at your own plant by any pipe fitter, on any standard pipe machine.

(If required, grooving and counterboring tools can be obtained from La Favorite)

LA FAVORITE *Rubber Mfg. Co.*
273 Wagaraw Road • Hawthorne, New Jersey

CLIP THIS COUPON FOR A BIG DIVIDEND

Yes, I want to know more about the Fieldlink method of joining rubber lined pipe in my own plant.

☐ Send me descriptive bulletin 2958 ☐ Send a representative to explain in person

NAME..... POSITION.....
COMPANY..... ADDRESS.....
CITY..... STATE.....

For more details circle NED-782 M7 on enclosed inquiry slip

This water cooler saves space and cuts costs in any plant!

Overhead installation prevents the damage that occurs to floor coolers

SUNROC

RECESSED PANEL COOLERS

in capacities from 5 gph to 42 gph

These economical coolers meet smallest to largest requirements. They can be installed in any remote location to eliminate the high maintenance costs of floor coolers in industrial areas.

The RP-16 gph unit, illustrated, is one of several hundred Sunroc coolers mounted on columns in a large plant. This cooler is a compact 16¾" square—yet combines small size with large capacity.

A variety of RP models are available—even a super-slim cooler that's only 6¾" deep. This model *fits right inside the wall* if so required.

Have Your Plant Surveyed *at no obligation* To Find Out How Sunroc RP Coolers Can Save You Space & Money! *Or Request Literature.*

SUNROC CORPORATION
Division M—Glen Riddle, Pa.
Check which and PLEASE PRINT
☐ Contact us regarding a plant survey
☐ Send RP Cooler literature

NAME..... TITLE.....
COMPANY.....
ADDRESS.....
CITY..... STATE.....

For more details circle NED-777 M7 on enclosed inquiry slip

SOLVE your PROBLEMS of

WATER
STEAM
and FUEL
TREATMENT

Economically! Dependably! with
WESTERN CHEMICAL

To preserve your equipment and to keep it operating continuously, efficiently, and economically, is the purpose and end result of the use of specialized Western formulas and the individual technical service that goes with them. Whatever your water, steam or fuel treatment problem is, it can be solved by Western Chemical Company. That is our business and it has been for over 65 years.

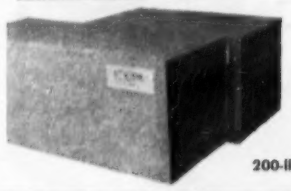
ONE SOURCE FOR COMPLETE TECHNICAL ASSISTANCE

In the series of Western Technical Bulletins you will find the story behind your particular problem — its causes and prevention. Without obligation, take advantage of this opportunity which can lead to definite savings in both costs and headaches. Write today for complete information.

WESTERN CHEMICAL CO. 714 Washington St. Kansas City 5, Mo.

For more details circle NED-783 M7 on enclosed inquiry slip

AN ORDERLY SYSTEM
FOR FILING · STORING · SEGREGATING



TRACINGS
BLUE PRINTS
SHEET MATERIAL

FILE CONSTRUCTED IN 200-lbs-Test CORRUGATED CONTAINER

25 TUBE Model 2½" I.D.			2530	2536	2542
49 TUBE Model 1¾" I. D.	49AB	49CD	4939	4936	4942
DEPTH	11¼"	22¼"	30½"	36½"	42¼"
PRICE	$6.25	$8.35	$10.85	$11.95	$12.85
	SHIPPING WEIGHT				
MOD. 25	——	——	13 lbs.	15 lbs.	17 lbs.
MOD. 49	8 lbs.	12 lbs.	15 lbs.	18 lbs.	20 lbs.

JR 36
DESIGNED TO MOUNT UNDER BOARD-MOUNTING BRACKETS FURNISHED. GRAY ONLY
7.95 SET of TWO
SOLD IN SETS ONLY — 2 JR36 PER SET
8 lbs. Ship. Wt.

ENAMELED DARK GREEN OR MED. GRAY — State Color

F.O.B. FRASER, MICHIGAN · PRESCOTT 3-2515 · SOLD DIRECT ONLY

ROLL & FILE SYSTEMS, INC. · P.O. BOX 3863, DETROIT 5, MICH.

For more details circle NED-784 M7 on enclosed inquiry slip

For *instant* identification try

Color coding with AVERY PRESSURE-SENSITIVE LABELS

Hundreds of manufacturers and businesses—from a San Antonio bakery to a New England thread mill—have turned to quick visual color coding with Avery pressure-sensitive Labels.
Instant dating and identification of the contents—by quality or quantity—saves valuable time and prevents costly errors—ends stockroom confusion!
Four basic labels can give almost any amount of data needed—they can be preprinted with standard information, then imprinted for each particular job *as it is used!*
Get the facts on how Avery can help solve *your* labeling problems—mail the coupon today!

Kum-Kleen
KUM-KLEEN when you want a REMOVABLE label.

Perma-grip
PERMA-GRIP when you want a PERMANENT label.

AVERY ADHESIVE LABEL CORP., Custom Div. 102G
117 Liberty St., New York 6
608 S. Dearborn St., Chicago 5
1616 S. California Ave., Monrovia, Calif.
Offices in other principal cities

☐ Please send me case histories on color coding and free samples.
☐ Please have the Avery man call.

NAME
COMPANY
ADDRESS
CITY ZONE STATE
OUR BUSINESS IS

For more details circle NED-785 M7 on enclosed inquiry slip

New Literature & Catalogs

Radiographic Materials

Eastman Kodak Co.—Line of Kodak industrial radiographic materials is illustrated and described in Pamphlet F1-3. Guide chart for selection of film for various material thicknesses is included. Recommended developing techniques in chart form compare various types of film. Development preparations and darkroom accessories are also covered.

For more details circle NED-786 M7 on enclosed inquiry slip

Dust & Mist Collectors

Hammond Machinery Builders, Inc.—Compact DusKolector units can be used with dirt and mist-producing machine far from central collecting systems. MistKolector units, available in two models and four motor sizes, collect fog and mist created by wet grinding and machining. Specifications and accessories of both are included in illustrated Catalog 815.

For more details circle NED-787 M7 on enclosed inquiry slip

Conveyor & Elevator Belting

Imperial Belting Co.—Included in catalog and engineering handbook on industrial conveyor and elevator belting is a Brand Recommendation Chart which aids in selecting the right size and type of belt for any specific job. Formulas are included in manual for design and application purposes. Also covered are maintenance and inspection suggestions.

For more details circle NED-788 M7 on enclosed inquiry slip

Axles & Running Gear Assemblies

United Mfg. Co.—34-page illustrated Catalog C-1 is descriptive of complete line of axles and running gear assemblies. Available only to engineering, design, and purchasing officials, this guide includes engineering drawings, and military and commercial specifications on axles, hubs, drawbars, wheels, and assemblies.

For more details circle NED-789 M7 on enclosed inquiry slip

Warehoused Copper & Brass

American Brass Co.—60-page illustrated "Copper & Brass Warehouse Stock List" is a detailed guide to the items and sizes of nonferrous products and materials that are available from stock in company's Chicago, Cleveland, Milwaukee, Philadelphia, and Providence warehouses. Listed are nonferrous alloy sheet, copper sheet, wire, rod, tube, conduit, angles, structural shapes, and flexible metal hose and tubing.

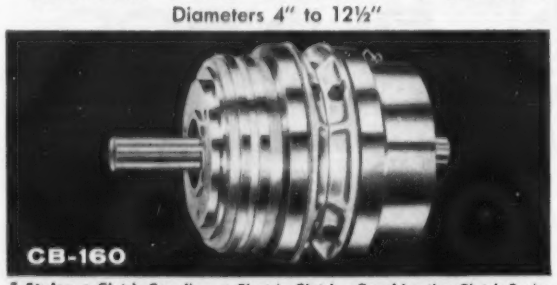
For more details circle NED-790 M7 on enclosed inquiry slip

Aluminum Ladders for Every Need

Louisville Ladder Co.—"The Quality Aluminum Ladder Line" is title of 20-page Catalog 57 which gives full information on all-aluminum straight, extension, step, trestle, marine, fixed, hanging, and special ladders. Also described are swing stages, step stands, mobile maintenance scaffolds, stirrups, and accessories for ladder, swing stage, scaffold, and safety uses.

For more details circle NED-791 M7 on enclosed inquiry slip

now presenting . . .
Simplatrol
LARGER SIZES CLUTCHES & BRAKES
Diameters 4" to 12½"



5 Styles • Clutch Coupling • Electric Clutch • Combination Clutch-Brake Electric Brake • Duplex Clutch

Three Ways Best for Automated Control

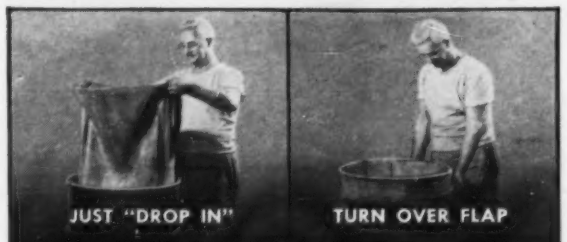
1 Simple Design—exclusive diaphragm is only moving part, obsoletes conventional clutch or brake made up of numerous troublesome parts.
2 Easily Mounted—precision machined ready for mounting, saves hours of installation labor.
3 Dependable—extra long life as well as quick, quiet response due to absence of moving parts which can wear and need repair.

Simplatrol Electric Clutches and Brakes simplify and upgrade machines you make or use. Ask for recommendations on Simplatrol units.

Send for new "larger sizes" folder

Simplatrol products corp.
24-6 SALISBURY ST., WORCESTER, MASS.
Representation in Key Industrial Areas
606-7

For more details circle NED-792 M7 on enclosed inquiry slip



UDYLITE
"DROP-IN" RUBBER LINERS

FOR STORAGE OR MIXING OF CORROSIVE SOLUTIONS

Just insert the pre-shaped rubber liner in any standard 55 gallon drum and immediately you have an added tank for temporary or permanent storage of corrosive solutions. Prompt shipment from Udylite stock.

ONLY $19.75

THE Udylite CORPORATION DETROIT 11, MICHIGAN
WORLD'S LARGEST PLATING SUPPLIER

For more details circle NED-793 M7 on enclosed inquiry slip

DUNDICK

C-R-A-S-H-E-S THE PRICE BARRIER
on Top-Quality Plug Gages!

DUNDICK DE LUXE
Double-End, Reversible-Pin STEEL PLUG GAGES 2" LONG
NOW ONLY $1.25 each in lots of 10 or more. Asst. Sizes.
MINIMUM ORDER $10.00

ALL THE FEATURES OF PRECISION GAGES COSTING MANY TIMES THIS PRICE!

- Oil-hardened Swedish-type Tool Steel
- Actual Precision-Ground Plug Gages — not just Drill or Reamer Blanks
- 720 Different Sizes — .030 to .750 in increments of .001
- Reversible when worn — twice the accurate gaging life

CAN BE PURCHASED INDIVIDUALLY OR IN SETS

GUARANTEED ACCURACY! Tolerances guaranteed plus or minus fifty millionths.

ORDER TODAY—or write for more information
DISTRIBUTORS—A few desirable territories still open—Write today

DUNDICK TOOL WORKS, INC.
"The Precision Gage for the Atom Age"
3410 West 31st Street • Chicago 23, Ill.

For more details circle NED-794 M7 on enclosed inquiry slip

KESTER SOLDERING FLUXES can be had in 160 different formulae, all widely proved by actual industrial use. Whatever your needs, we can supply a Flux that will give the exact results required. Kester Fluxes are available in the usual containers from 5 gallons to a pint.

Write today for Complete Flux Brochure

KESTER SOLDER COMPANY
4249 Wrightwood Avenue, Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

For more details circle NED-795 M7 on enclosed inquiry slip

Convair helps improve plant hygiene with SBS-30 waterless skin cleanser

In this ultra-modern plant are produced many of Democracy's air defenses. Here, too, is achieved an ultra-modern plant hygiene program with the help of SBS-30 Waterless Skin Cleanser.

To maintain cleanliness on this priority production, Convair has installed SBS-30 Waterless Skin Cleanser dispensers in "difficult soil areas". SBS-30 affords this fast, safe and thorough "on-the-job" way of cleaning that requires no water, plumbing or complicated installation.

Wherever they are installed, SBS-30 Waterless Skin Cleanser dispensers help Convair to produce savings through greater "on-the-job" efficiency. Man-hours are saved by reducing the number of trips to distant wash areas. The incidence of industrial dermatitis is reduced through improved personal hygiene.

Why don't you, like Convair and hundreds of other industrial leaders, take a serious look at SBS-30 Waterless Skin Cleanser. WRITE TODAY—we'll rush complete, detailed literature.

Write Dept. 57-L6

sugar beet products co. SBS

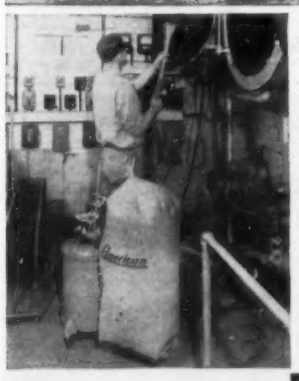
SBS WATERLESS WASHSTATION*
"Brings the Washroom to the Worker" *

MAIN PLANT: 302 Waller St. Saginaw, Michigan
Los Angeles, California • Newark, New Jersey
CANADIAN SUBSIDIARY: Chemical By-Products Ltd., 22 Racine Road, Rexdale, Ontario, Canada

*Trademark

For more details circle NED-796 M7 on enclosed inquiry slip

FACTORY CLEANING costs less With AMERICAN Vac-King



4 MACHINES IN 1

You can quickly detach the head of any American Vac-King with external filter to power different types of dust removing tools. 1 – Start with the 9 or 12 gallon Vac-King with external bag for dry pick-up; 2 – Remove head, add nozzle, use as blower; 3 – Use as portable shoulder vac by adding proper attachments; 4 – Vac head and dolly fit any 55-gallon drum for speedy wet or dry pick-up cleaning. Rugged 1 or 1½ hp motor.

External filter model

in use as a furnace cleaner. Also, clean floors, ducts, ceilings, radiators, stock rooms, many other factory jobs.

★ ★

Portable shoulder vac

goes anywhere in the plant to keep machines, equipment, stock shelves, etc., free of damaging dust and dirt.

SOLD THROUGH SANITARY SUPPLY DEALERS
FOR BUYING FACTS WRITE

AMERICAN® FLOOR MACHINE CO. ESTABLISHED 1903

Performance Proved Maintenance Machines World-Wide Sales and Service

a division of American-Lincoln Corporation
524 So. St. Clair St. • Toledo 3, Ohio

For more details circle NED-797 M7 on enclosed inquiry slip

New Processes & Materials

CERAMIC PERMANENT MAGNETS usable in direct current motors

Ceramic permanent magnets can now be used in place of electromagnets for direct current motor fields. Indox V magnets cannot become demagnetized when

opposed by powerful armature fields, thus permitting their use in dc motors in sizes ranging from tiny fractionals to motors rated 10 hp or more. In motor applications, Indox I ceramic permanent magnets have a maximum energy of 17.4 in.-lb per lb. Shown are some of the shapes of motor fields that can be economically formed. Developed by **Indiana Steel Products Co.**, Dept. A, Valparaiso, Ind.

For more details circle NED-798 M7 on enclosed inquiry slip

EPOXY CASTING PRODUCT is low viscosity, nonsettling type

Added to the Hysol 6900 series of epoxy casting materials are four new products which feature longer pot life, low viscosity, and elimination of settling. Series is formulated for casting of transformers, coils, magnetic amplifiers, and similar equipment. They are easy to handle and are suitable for continuous production techniques. Flexibility prevents cracking caused by temperature cycling and shock. Made by **Houghton Laboratories, Inc.**, Dept. NED, Olean, N. Y.

For more details circle NED-799 M7 on enclosed inquiry slip

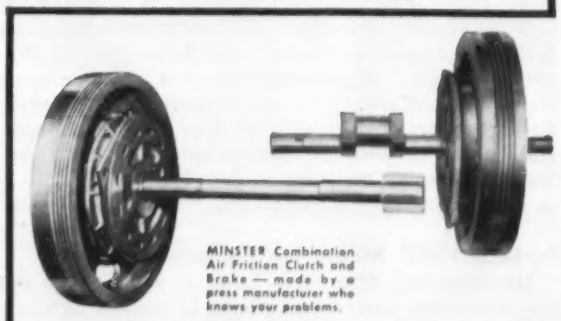
BUILDING BOARD resists fire, heat, rot, and vermin

Composed entirely of inorganic materials, Asbestolux building board will resist fire, heat, rot, mold, and vermin. Material is formed of Amosite long fiber asbestos which is bonded chemically with silica by a high pressure steam process. Resiliency, strength, and length of asbestos fibers contribute to its lightness and workability. Board is also a prime thermal and electrical insulating material and can be sawed, nailed, or fastened with screws. Photo shows board receiving full blast of a military flame-thrower. Made by **North American Asbestos Corp.**, Dept. N, Board of Trade Bldg., Chicago 3, Ill.

For more details circle NED-800 M7 on enclosed inquiry slip

TO INCREASE PRESS EFFICIENCY

MINSTER. CLUTCHES FOR PRESS CONVERSIONS



MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

Here's why it is profitable to convert to Minster Clutches:

- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

For more details circle NED-801 M7 on enclosed inquiry slip

BURR, CLEAN, FINISH, POLISH

in a one-step operation never before associated with abrasives!

Discover Brightboy's different working action—abrasive and rubber, working simultaneously!

Multi-Use Brightboy
FINISHES ALL METALS; PLASTICS LAMINATED MATERIALS, WOOD, GLASS

Ask your dealer for STOCK BRIGHTBOY NUMBERS FOR YOUR NEEDS, and for the Brightboy catalog listing applications, machine speeds. Write us if he cannot supply you or on any problem in which finishing is involved. *Ask him or write us for "Notes from The Brightboy Service Engineer", describing applications recently reported by our service engineers.*

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street
Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

For more details circle NED-802 M7 on enclosed inquiry slip

Extra Powerful 3/8" Drill-

just $39.95

New Porter-Cable Drill Features:
Big Drill Performance — Big Chuck Capacity!

Never before a drill with so much power and capacity at this low price!

The new Model 149 is specially designed to do drilling jobs not possible with standard ¼" drills. It features a heavy-duty Universal motor, extra large precision ground gear chuck, man-sized pistol grip, ball bearings and much more. See and try the new Model 149 drill at your dealer's soon. Write for full information.

PORTER-CABLE Machine Company
7128 N. Salina Street
Syracuse 8, New York

Porter-Cable *Quality Power Tools*

saws • drills • sanders • routers • shapers • planes
In Canada: Porter-Cable Ltd., Box 5019, London, Ont. Canadian prices slightly higher.

For more details circle NED-803 M7 on enclosed inquiry slip

If you want a simple, compact, infinitely variable speed drive for . . .

agitators
boring mills
centrifuges
conveyors
cut-off machines
experimental equipment
fatigue testing machines
feed screws
gear pumps
index mechanisms
knitting machinery
laboratory equipment
lathes
metering pumps
mixers
packaging machines
paper machines
pill extruders
plastic machinery
rotating drums
spectrometers
spring making machines
textile process machines
timing switches
transfer machines
vibration testers
washers
welding machines
winding devices
wire drawing machines
yarn rolls

or any one of hundreds of other devices requiring variable speed control

WRITE FOR BULLETIN K-200 FOR FULL INFORMATION ON THE NEW CLEVELAND SPEED VARIATOR

It's quiet, efficient, economical. No belts or complicated linkage. Instant speed change by manual, automatic or remote control.

THE CLEVELAND WORM & GEAR COMPANY
Speed Variator Division, 3283 E. 80th St., Cleveland 4, Ohio
Sales Representatives in all major industrial markets

For more details circle NED-804 M7 on enclosed inquiry slip

A HOFFCO-VEYOR SYSTEM PAYS ITS WAY AT ARMOUR & CO.

A HOFFCO-VEYOR pneumatic conveying system installation at an Armour & Co. glue plant solved their material handling problems and resulted in these money saving improvements:

- Instead of numerous units of bulky machinery, one compact Hoffman system serves the entire plant.
- Materials move in controlled quantities.
- Clean, dust-free pick-up and delivery prevents leakage into plant atmosphere.
- Working hazards are eliminated by enclosed equipment.
- Savings in labor costs pay for the equipment in a short time.

WRITE FOR BULLETIN FB 500

PNEUMATIC CONVEYING DIVISION

U.S.HOFFMAN MACHINERY CORP.

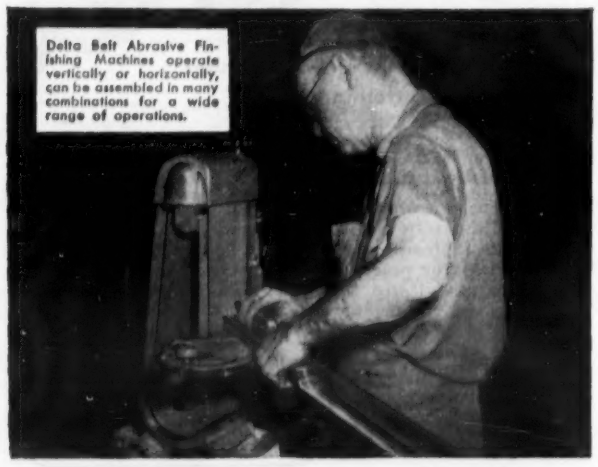
103 FOURTH AVENUE, NEW YORK 3, N. Y.

For more details circle NED-805 M7 on enclosed inquiry slip

ROCKWELL-BUILT

DELTA

belt abrasive finishing machines



...high speed, low cost finishing

for Air Master Corp., Phila., Pa.

SAVE TIME, WORK—Six Delta machines in key work areas maintain high production capacity on finished aluminum door and window parts. According to Francis Yanessa, Vice President, the Delta machines do fast, on-the-spot finishing—eliminate costly, time-consuming stock handling.

REDUCE PRODUCTION DOWN-TIME According to Mr. Yanessa, the abrasive belts are quickly and easily replaced—greatly reduce production time loss. And because the Delta machines meet all safety requirements, operators maintain maximum output with complete protection.

LOW MAINTENANCE COST—The Delta machines stand up under *tough* everyday use—without constant expensive maintenance and repair.

GET ALL THE FACTS—Compare—then make up your *own* mind! Your Delta Dealer is listed under "TOOLS" in the Yellow Pages of your phone book.

another product by

DELTA ROCKWELL — ROCKWELL

Send for all the facts!

Delta Power Tool Division, Rockwell Manufacturing Co.
626M N. Lexington Ave., Pittsburgh 8, Pa.

☐ Please send catalog on Delta Belt Abrasive Finishing Machine.
☐ Please send names of my nearest Delta Dealers.

Name _____ Title _____
Company _____
Address _____
City _____ County _____ State _____

For more details circle NED-806 M7 on enclosed inquiry slip

New Literature & Catalogs

Examining Fastener Costs

"A Critical Re-examination of the Price-Per-Thousand Purchase Policy" is a 20-page illustrated booklet which relates how economies can be achieved through use of Shakeproof preassembled fasteners on the assembly line. Specific cost figures will enable engineering management to analyze their operations. Request on company letterhead from Illinois Tool Works, Shakeproof Div., 2503 N. Keeler Ave., Chicago 39, Ill.

For more details circle NED-807 M7 on enclosed inquiry slip

Taps, Dies, & Gages

Winter Brothers Co.—64-page illustrated Catalog 24 and supplementary "Net Price Schedule" presents complete data on general and special purpose taps, dies, and gages for all types of threading applications. Technical data section contains tables, production guidance, and engineering information related to threading and tapping.

For more details circle NED-808 M7 on enclosed inquiry slip

Metalworking Presses

Lake Erie Machinery Corp.—Four column metalworking presses with capacities to 10,000 tons are detailed in 16-page Bulletin 6.17. Presses are suited for high-tonnage drawing and forming; die quench, stretch, and rubber pad forming; deep drawing; steel and aluminum forging; heavy plate bending and working; straightening; coining; and bushing.

For more details circle NED-809 M7 on enclosed inquiry slip

Filter Data

Millipore Filter Corp.—20-page "1957 Supplement" summarizes characteristics and major applications of the MF Millipore filter membranes for the analysis of liquid and gas dispersed particles and microorganisms, and introduces the new high-strength Microweb filter membranes which allow for the absolute removal of microscopic and submicroscopic particles from highly critical liquids and gases in industrial process applications. Prices and specifications are included on other filters and media.

For more details circle NED-810 M7 on enclosed inquiry slip

Sheet Packings

Crane Packing Co.—Sheet packings for practically every industrial purpose are described in 8-page illustrated Bulletin P-328. Nineteen varieties of packings covered include types fabricated from asbestos, rubber, synthetic rubber, neoprene, silicone, fiber, Teflon, and plastics. All can be supplied in die-cut gasket form in any shape or size.

For more details circle NED-811 M7 on enclosed inquiry slip

Self-Locking Electrical Connectors

Avnet Interlock Corp.—Hubbell Interlock self-locking electrical connectors which lock automatically, are vibration and pull proof, and have constant low electrical resistance are subject of 28-page illustrated brochure. These terminal devices are available as plugs and connectors, panel jacks, angle plugs and jacks, terminal strips, quick disconnects, and test prods.

For more details circle NED-812 M7 on enclosed inquiry slip

Fiber & Fiber Products

Spaulding Fibre Co.—"Products for Industry" is title of 42-page idea book and technical manual for design engineers, draftsmen, and buyers of machine parts. Tables of physical properties, engineering charts, and descriptions are included on vulcanized fiber, Armite, Spauldite, and Spauldo sheets, rods, and tubes, as well as on fiberboard and fiber holloware material handling equipment.

For more details circle NED-813 M7 on enclosed inquiry slip

Surface Finish Measuring Equipment

Micrometrical Mfg. Co.—Line of shop equipment for measuring surface roughness is subject of Catalog 157 on Profilometer equipment. Covered are various models of manual and motorized tracers, Amplimeter indicating units, and other equipment for straight line and circular tracings. Specifications of all equipment are given.

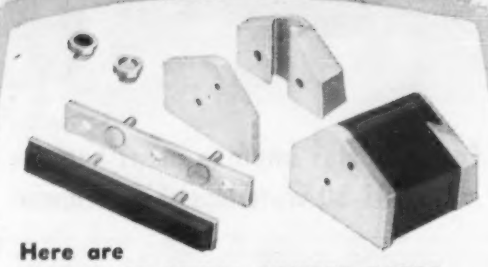
For more details circle NED-814 M7 on enclosed inquiry slip

Automatic Welding Machines

Dix Engineering Co.—Problems in welding automotive parts and solutions with custom-built Dixco automatic welders are highlighted in 6-page illustrated brochure. Brief case histories are included for each machine shown.

For more details circle NED-815 M7 on enclosed inquiry slip

WE MOLD AND FABRICATE RUBBER AND SYNTHETICS WITH IMAGINATION



Here are RUBBER TO METAL BONDED PARTS

Produced by MRP in solid and sponge in natural or synthetic rubber . . . strong, tough and resilient. Permanently bonded to any metal and other materials.

Let our tool shop, approved test laboratory, complete production facilities help solve your bonded assembly problems. Long, short or experimental runs. Special, commercial, ASTM, SAE or Government specifications.

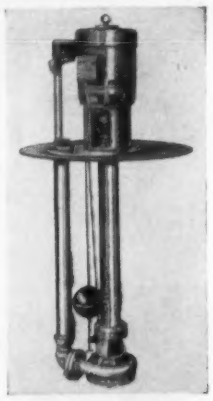
Write, wire, phone for samples, prices, or help on your design problems.

MECHANICAL RUBBER PRODUCTS CO.

7 Veil Road • Warwick, New York • WArwick 55-2271

For more details circle NED-816 M7 on enclosed inquiry slip

Goulds Fig. 3171



New, heavy-duty vertical sump or process pumps

Custom-built advantages at standard-part prices

Now you can get vertical centrifugal sump or process pumps tailored to your special needs. Get them as fast as you can get a "stock" pump—and at no extra cost.

These new Goulds pumps—assembled from standardized modular parts—are available in single or duplex units for wet pit or dry pit use.

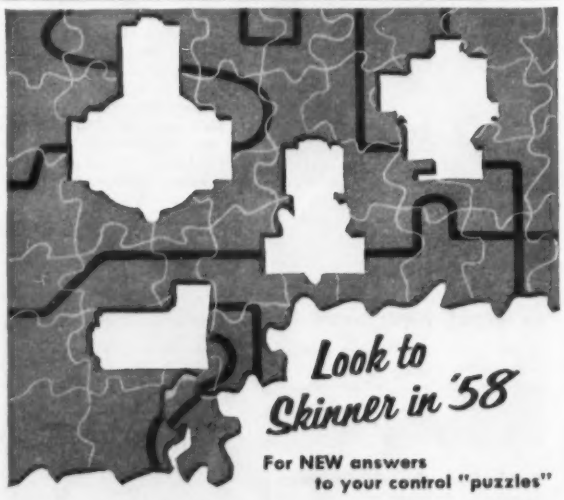
Wet and dry pit types for all pit depths from 2 to 20 ft. by 6-inch increments (no special length shaft and pipe columns). Changes to meet new pit depths are easy, economical.

All units available in vaporproof construction. The range of pump and motor combinations provides for capacities up to 1080 GPM, or heads to 290 ft. Write for Bulletin 726.2.

GOULDS PUMPS FOR INDUSTRY

Main Office and Works
GOULDS PUMPS, INC.
Seneca Falls, New York
Branches and Representatives in all principal cities

For more details circle NED-817 M7 on enclosed inquiry slip



Look to Skinner in '58

For NEW answers to your control "puzzles"

Coming soon—several completely new solenoid valve lines loaded with such features as...

- Lower prices
- Greater capacities
- Higher pressures
- Long life expectancy—millions of cycles
- Diversified applications
- Wide selection of media handling

Most important, these new valves will give you performance and applications that heretofore have not been possible!

Look for the announcements of Skinner's new valve lines in these pages throughout 1958. For advance information, write Dept. 43D.

SKINNER ELECTRIC VALVE DIVISION
NEW BRITAIN CONNECTICUT
105 EDGEWOOD AVENUE

THE CREST OF QUALITY

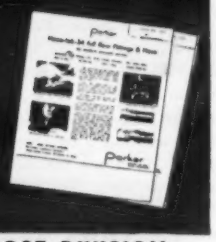
For more details circle NED-818 M7 on enclosed inquiry slip

FREE new folders on Parker No-Skive Hoze-Lok

These fully-illustrated folders, Nos. 4433, 4434, show you step by step how to get around the time-consuming job of stripping hose covers . . . by simple, effective hose assemblies with Parker no-skive Hoze-lok fittings. Just turn the hose (with cover intact) into socket.

These folders catalog the new series of Hoze-lok styles and sizes. Four different connecting ends.

Send also for FREE Parker Catalog No. 4310 for information about Triple-lok flare tube fittings.



PARKER FITTINGS AND HOSE DIVISION

Parker Hannifin
creative leader in fluid systems

Order from your Parker Distributor — or Parker Fittings and Hose Division, Section 432-Y, Parker-Hannifin Corp., 17325 Euclid Avenue, Cleveland 12, Ohio

For more details circle NED-819 M7 on enclosed inquiry slip

new savings with GUN-PAKT TYPE W EXPANSION JOINTS

The Yarway Type W Gun-Pakt Expansion Joint has an improved one-piece design of body and gland and improved method of packing that provide new maintenance economies and greater operating efficiency.

Bolted joint between body and gland is eliminated; the steel body includes gland and guide. Shorter face-to-face dimensions are possible. Improved angle of packing guns makes them more accessible and *permits injection of the special plastic packing directly into packing space.*

The famous Yarway *Gun-Pakt* feature permits *addition of packing under full steam pressure. No need for costly shutdowns to repack.*

Sizes 1½" to 30", pressures 150, 300, 400 psi. Single or double types, flanged or welding ends.

For full description, write for new Yarway Bulletin EJ-1916.

YARNALL-WARING COMPANY
131 Mermaid Avenue, Philadelphia 18, Pa.
BRANCH OFFICES IN PRINCIPAL CITIES

20" Yarway Type W Gun-Pakt Joint with base, single type, welding ends, 8 guns.

YARWAY GUN-PAKT

...a good way to specify expansion joints

For more details circle NED-820 M7 on enclosed inquiry slip

New Processes & Materials

THREAD LOCKING LIQUID kit has five holding torques

Five different strengths of Loctite sealant contained in a kit enable the user to choose the grade for the thread locking torque required for a particular application. The liquid plastic sealant (*NED, June '57*) sets up nuts and bolts so that vibration will not shake them loose, yet they can be removed with ordinary tools. Kit contains the five grades in plastic squeeze dispensing bottles. The thin liquid is applied directly to assembled nut or bolt, wicking into the space between threads. Kit also contains cotton swabs and Locquic activator for greasy or cadmium or zinc plated fasteners. Made by **American Sealants Co.**, Dept. NED, 103 Woodbine St., Hartford 6, Conn.

For more details circle NED-821 M7 on enclosed inquiry slip

LUBRICATING-PENETRATING OIL quick-acting type contains graphite

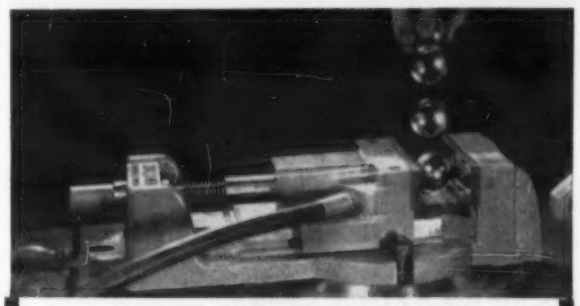
Motors, fittings, railroad car door hinges, small parts, springs, hinges, and industrial machinery can be lubricated with L & P Graphite Oil, a lubricating and penetrating oil containing colloidal graphite. The quick-acting lubricant contains a rust inhibitor. Graphite particles do not settle out. Three-ounce, pint, gallon, and 5-gal containers are offered. Made by **Joseph Dixon Crucible Co.**, Dept. NED, Jersey City 3, N. J.

For more details circle NED-822 M7 on enclosed inquiry slip

SILVER SOLDERING FLUX has strong scavenging action

Strong bond of silver solder on stainless steel, Monel, nickel, copper, brass, bronze, and steel is assured with use of low-melting AG flux. Powerful scavenging action acts on silver solder to eliminate time lag between fluidity of solder and its adherence to the parent metal. Flux increases solder's spreading action and tinning coverage, and reduces porosity to practically nil. On the new copper aluminum alloys, it disburses the aluminum oxide, leaving the silver solder uncontaminated. Flux residue can be removed by washing with hot water, and flux can be thinned with water without reducing its effectiveness. Made by **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

For more details circle NED-823 M7 on enclosed inquiry slip



FASTER MACHINE LOADING? MILOMATIC IS ON THE BALL!

In the time it takes a 1" steel ball to drop 6 inches, MilOmatic air powered hydraulic vises close automatically! This split second automatic clamping action is the perfect way to cut costs and increase production on high speed operations, in which efficiency depends on fast loading and unloading. You can use MilOmatics on any machine in your plant, as an automatic production fixture, and you can adapt them to any work piece with low cost jaw inserts. Get on the ball! Get the facts about MilOmatic today!

Attach this ad to your letterhead for free demonstration or new free catalog!

WILTON TOOL MFG. CO., INC.
Schiller Park, Illinois

NED-12

Sold By Leading Distributors The World Over

For more details circle NED-825 M7 on enclosed inquiry slip

¡ES FACIL!

In Spanish, in English, in any language —it's easy to incorporate dependable, fool-proof timing into your product or its application. Rhodes can design and produce short or long runs of MARK-TIME mechanical timing devices to meet your every demanding specifications of performance and precision.

Let the manufacturers of the famous MARK-TIME timing devices help you solve timing application problems—send today for full details!

Representatives in principal cities in the U.S.
Manufactured and sold in Canada by: Sperry Gyroscope Ottawa Ltd., Ottawa, Ontario, Canada

M. H. RHODES, INC.
79 BARTHOLOMEW AVE.
HARTFORD, CONNECTICUT

For more details circle NED-826 M7 on enclosed inquiry slip

no more cold feet with Electro-Mat
ELECTRIC FLOOR MAT

helps prevent colds

Production line and office workers can now work in absolute comfort

The new low-priced ELECTRO MAT throws off a gentle warmth that keeps workers healthy, happy and comfortable. 14" x 21" portable foot warmer is safe and economical . . . consuming less power than a 100 Watt light bulb. It is made of high quality oil-resistant rubber.

Attention Employers

Increase the efficiency of your employees and help prevent colds which cause absenteeism. Equip each employee with an Electro Mat.

IMPORTANT SAVING: If 6 or more Electro Mats ordered price is only $6.95 each.
Please send me: ☐ Electro Mat at $7.95 each.
Eclosed is my check ☐ money order ☐ ☐ C.O.D. I am enclosing $1.00. Will pay postman balance of $6.95 plus C.O.D. fee.

Name ____
Street ____ Zone ____
City ____ State ____

Mail check or money order today
Only $7.95 Delivered

10 Day Money Back Guarantee
Interstate Rubber Products Corp., Dept. 303
906 Avila St., Los Angeles 12, California
9108 Meyers Rd., Detroit 28, Michigan
Dealer Inquiries Invited.

For more details circle NED-824 M7 on enclosed inquiry slip

Cut Maintenance $600 yearly per unit with WORLD Hand Dryers

Best By Test!
Factory Guaranteed!

THOUGHTFUL BUYERS USE WORLD!
Marshall Field & Co.
Northwestern University
Chrysler Corp.
Union Pacific Railroad
Libby-Owens-Ford
Frick Building
U. S. Army
U. S. Navy
Gimbel Brothers
Howard Johnson's
Alton, Ill. Schools
Pick Hotels
Gulf Oil

Each high speed WORLD Hand Dryer can save up to $600 per year on paper and maintenance . . . dry hands fast as towels . . . keep washroom clean and sanitary.

Prove it to yourself under our FREE trial offer! Full details on request.

MAIL THIS COUPON NOW!

WORLD DRYER CORPORATION
616-22 W. Adams St., Chicago 6, Ill.

Gentlemen: Without obligation send me copies of letters from users, also folder of facts including cost-saving figures and full details on your FREE-TRIAL offer.

My name ____
Firm name ____
Street ____
City ____ State ____

For more details circle NED-827 M7 on enclosed inquiry slip

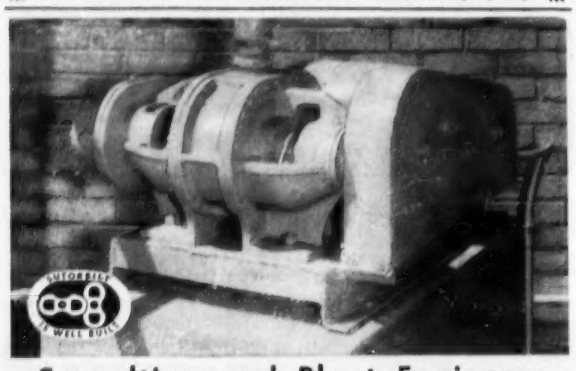
NEED BULK HOSE? IN RUBBER OR SYNTHETIC? NEED HOSE ASSEMBLIES? HOW ABOUT HOSE FOR CHEMICAL OR HIGH TEMPERATURE APPLICATIONS? NEED TEFLON*? AND TALK ABOUT FITTINGS AND COUPLINGS— 100'S TO SELECT FROM. GET THEM FROM **FLEX-O-TUBE®**

*Dupont Trademark. Licensed for manufacture by Resistoflex Corporation

Write for Catalog C-100

FLEXONICS CORPORATION
Formerly Chicago Metal Hose Corporation
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

For more details circle NED-830 M7 on enclosed inquiry slip



Consulting and Plant Engineers look to SUTORBILT

...for solutions to air and gas handling problems

A 5HXB vacuum pump at the Sunnyvale, California, Sewage Treatment Plant is typical of many in use today. It is used to handle sewer gas from the gasometer at the Waukesha engines.

Sutorbilt is ready to put more than 26 years of experience in manufacturing rotary positive blowers, gas pumps, and vacuum pumps to work for you. Standard units are available in capacities up to 30,000 CFM and pressures or vacuums up to 12 psig. (S-7 4286)

Write for the name of the representative nearest you, or check the yellow pages of your local telephone directory.

SUTORBILT CORPORATION
SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.
P. O. Box 269 · 2966 E. Victoria St. · Compton, Calif.

For more details circle NED-831 M7 on enclosed inquiry slip

YOUR PAINT SPRAY BOOTH CAN BE MORE EFFICIENT, MORE ECONOMICAL!

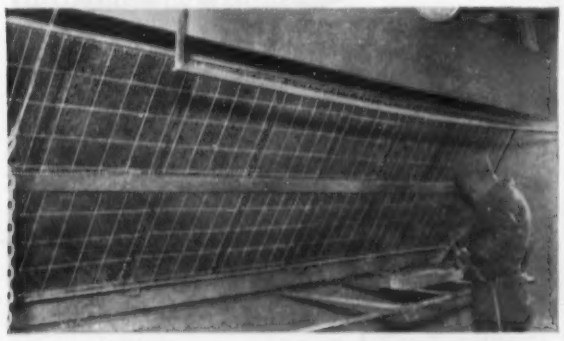


Photo Courtesy Burnaby Venetian Blinds, Ltd., Winnipeg, Canada

. . . With the many advantages of RP Paint Arrestors

Easily and economically installed, RP Paint Arrestors brought the advantages of minimum floor-space and down-time requirements, plus the most effective method of trapping paint overspray to this booth. Your plant, too, can benefit with RP Paint Arrestors. Write for complete information.

WRITE FOR FREE BOOKLET

Helpful, informative suggestions to solve your paint spray booth problems. Write Today.

RESEARCH PRODUCTS CORPORATION
DEPT. 32, MADISON 10, WIS.

RP . . . PRODUCTS OF RESEARCH

For more details circle NED-832 M7 on enclosed inquiry slip

New Literature & Catalogs

Air & Hydraulic Cylinders

Petch Mfg. Co.—Air and low pressure hydraulic, high pressure hydraulic, Pemaco air and hydraulic, and Automation Standard air and hydraulic cylinders are detailed in 12-page Catalog PSC-57. Cylinders range in diameter from 1 to 10 in., with lengths and mountings to suit application.

For more details circle NED-833 M7 on enclosed inquiry slip

Material Handling Case Studies

Lewis-Shepard Products, Inc.—Seven case studies showing how various manufacturers solved production, storage, and shipping problems with modern material handling equipment are presented in 14-page loose-leaf bulletin. Equipment described includes hand lift, electric fork lift, and electric "walkie" trucks, as well as attachments and accessories.

For more details circle NED-834 M7 on enclosed inquiry slip

Petroleum Dispensing Equipment

John Wood Co., Bennett Pump Div.—Among the petroleum dispensing equipment detailed in 66-page illustrated catalog "Bennet Eco" are gasoline pumps, Tireflators, kerosine dispensers, barrel and skid tank pumps, and grease dispensers. Prices are included.

For more details circle NED-835 M7 on enclosed inquiry slip

Industrial Doors

Richards-Wilcox Mfg. Co.—SupeR-Way steel frame, industrial channel frame, galvanized steel shell, corrugated sheet metal, Sta-Rite wood, steel plate, vertical lift, and craneway doors are featured in Catalog A-97. Installation data, application pictures, and a section on electric door operators are included.

For more details circle NED-836 M7 on enclosed inquiry slip

Magnesium & Aluminum Castings

Wellman Bronze & Aluminum Co.—Magnesium and aluminum alloys which can be sand or permanent mold cast by this company are listed in 24-page Catalog 57. Production facilities, typical parts made to users' specifications, and properties of various alloys are discussed.

For more details circle NED-837 M7 on enclosed inquiry slip

How to Use a Viscosity Meter

Brookfield Engineering Laboratories, Inc.—Principles of viscosimeter operation, calibration, and use are covered step-by-step in illustrated 16-page instruction Manual VIM 57. Pictures and text instruct untrained personnel to operate this instrument in 5 minutes.

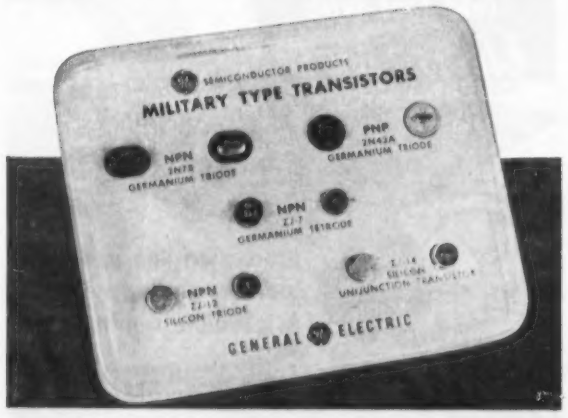
For more details circle NED-838 M7 on enclosed inquiry slip

Casters & Handling Equipment

Colson Corp.—Described in plastic bound, illustrated catalog are 10,000 industrial and institutional casters and 500 different types of wheeled trucks and material handling equipment. Pages can be added or deleted to keep catalog up-to-date.

For more details circle NED-839 M7 on enclosed inquiry slip

SMALL and FRAGILE PARTS....



These G.E. transistors encased in a Lite-TUFF box are easily handled and displayed, yet completely protected.

A Lite-TUFF box may solve the problem of sales visibility plus *rugged* protection for you.

Full information and Plot Plan Sheets sent upon request.

SHOE FORM CO. INC.
Dept. B-20, Auburn, New York

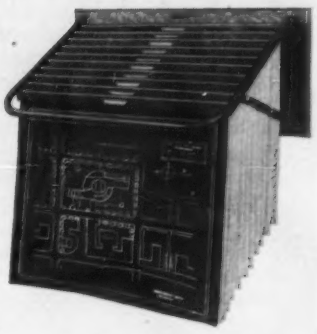
For more details circle NED-840 M7 on enclosed inquiry slip

Here's an Easier way to handle your Blueprints!

This new, wall-type

Martin Sheet File System

enables you to work with a large number of blueprints more efficiently and neatly because each sheet hangs flat. When not in use, the sheet hangers fold flat against the wall, resulting in a minimum of storage space. A unique feature is the new spring clips which hold sheets firmly and permit quick and easy removal of sheets at any time. For complete information on how a Martin File System can solve your blueprint problems,
Write to Dept. NED.



Units are available in 2 sizes, Model #30 at $49.50 holds sheets up to 30" wide, and Model #42 at $63.80 holds sheets up to 42" wide. Both sizes have a gray hammertone finish.

Fort Pitt Fixture Company
2056 W. LIBERTY AVE. PITTSBURGH 26, PA

For more details circle NED-841 M7 on enclosed inquiry slip

AMAZING COST REDUCTIONS

with New **SYNCHRO AUTOMATIC MACHINING** *Process*

6 TIMES ACTUAL SIZE

Shown above is a part which is manufactured complete in one operation by means of Synchro Automatic Machining. The triangle is generated behind the shoulder through this exclusive process.

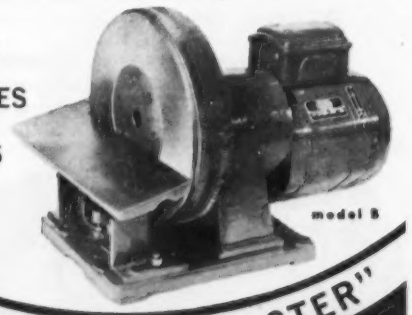
We can machine hexagons and squares in brass, aluminum and free cutting steel; triangles in brass and aluminum only.

Write for our brochure which describes many different operations which we can perform and eliminate secondary work.

A. G. KADDIS SCREW PRODUCTS, INC.
314 Hudson Ave.
Rochester 5, N. Y.

A KADDIS SYN-CRO-MATIC PRODUCT

For more details circle NED-842 M7 on enclosed inquiry slip



FILES
SHAPES
MILLS

model 8

the new "R—FILEMASTER"

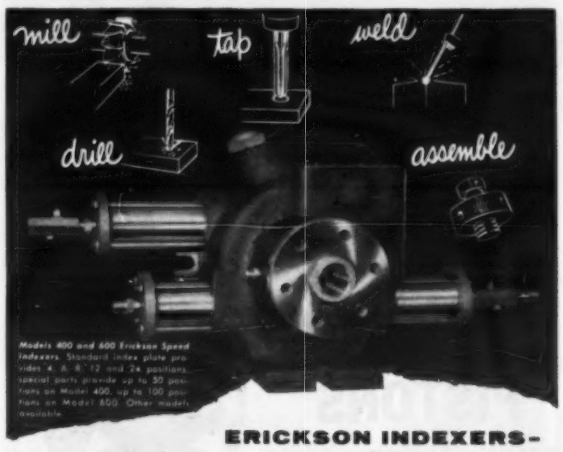
MULTI-PURPOSE ROTARY POWER TOOL
another step in
PRODUCTIVITY

REMOVES METAL 3 TO 10 TIMES FASTER THAN HAND FILING

Indispensable for
PRODUCTION AND TOOL ROOM because of its—
SAVING of Time — Money — Elbow Grease
UNIVERSALITY of application • SIMPLICITY of operation

Write for Bulletin
HUDSON AUTOMATIC MACHINE & TOOL CO.
137 — 38th Street, Union City, N. J.
REPRESENTATION DESIRED IN SOME AREAS

For more details circle NED-843 M7 on enclosed inquiry slip



ERICKSON INDEXERS—
the economical way to smash automation bottlenecks

Even the most elaborate automatic production line can bog down *expensively* without rapid and accurate automatic parts positioning.

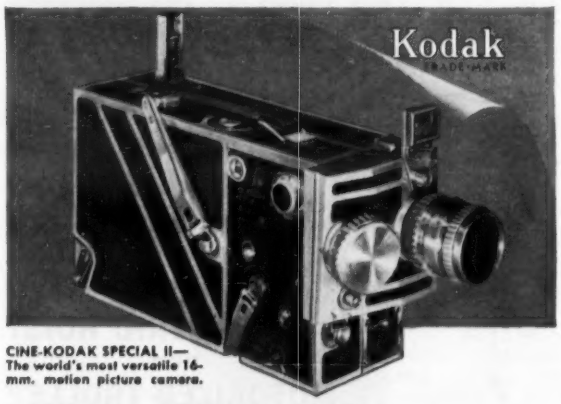
That's where Erickson Indexers really pay off. For you can interlock them into your production set-up with micro switches and solenoid valves. The hardened and ground lock pin operates in conjunction with the actuating mechanism to assure *positive positioning and angular accuracy within 2 minutes of a degree.* (Repetitive accuracy is no indication of angular accuracy. Erickson holds repetitive accuracy in low "tenths" of a thousandth.) And Erickson Indexers can maintain this great accuracy because their adjustable, self-contained shock control unit delivers a cushioned rotary load to the mechanism, thereby reducing wear.

Speed to keep lines moving . . . accuracy to reduce rejects . . . long life to cut maintenance and capital investment – all add up to Erickson Indexers, the *economical* way to smash automation bottlenecks.

ERICKSON TOOL COMPANY
34358-12 Solon Road • Solon, Ohio

Collet Chucks • Floating Holders • Tap Chucks • Indexers • Tap Holders
Air-Operated Chucks • Expanding Mandrels • Special Holding Fixtures

For more details circle NED-844 M7 on enclosed inquiry slip



CINE-KODAK SPECIAL II—The world's most versatile 16-mm. motion picture camera.

Make movies that work for you!

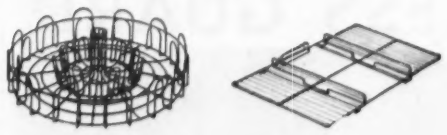
In almost every industrial activity—engineering, manufacturing, employee training, research, safety and methods evaluation—in-plant movies are the fastest, easiest, and most effective method for putting across your story.

And for on-the-job movie making, many leading industrial companies have chosen the Cine-Kodak Special II Camera. It has the versatility to handle almost any type of job. Yet its simplicity of operation enables you to get high-caliber results almost as easily as taking home movies.

WRITE FOR FREE BOOKLET, V1-3,
describing the Cine-Kodak Special II.

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

For more details circle NED-845 M7 on enclosed inquiry slip



Versatile
FORMED WIRE PRODUCTS
BY *Peerless*

There's extra advantage in calling Peerless for consultation on your formed wire products problems. Peerless Design Engineers have been helping major manufacturers with recommendations, fabrication and delivery since 1910.

Peerless is recognized by the major manufacturers as one of the leading producers of wire goods. Complete facilities are maintained by Peerless for resistance welding at all points of contact and complete finishing services including zinc plate, zinc chromate, lacquer and poly-vinyl finishes. Peerless can help you with your design and formed wire production problems.

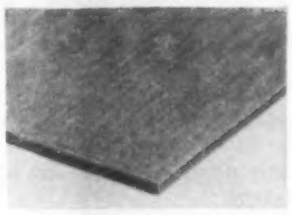
Write today for Peerless' new brochure on their plant facilities. We invite your immediate inquiry on your current problems.

PEERLESS WIRE GOODS COMPANY, INC.
2706 FERRY STREET · LAFAYETTE, INDIANA

For more details circle NED-846 M7 on enclosed inquiry slip

New Processes & Materials

FOAM-FABRIC COMBINATION
fabrics include supported vinyls



Neoprene foam rubber in 1/20 to 3/8-in. gages is now available permanently cured to various types of fabrics, including supported vinyls. Densities from light through firm are possible. Liquid neoprene is poured in a constant process and cured to supporting fabrics on an endless moving belt encased in an oven. The neoprene-fabric combination can be as wide as 9 ft and virtually any length in a roll. Neoprene foam resists fire and heat, oil, and greases. Made by **Crown Rubber Co.,** Dept. FR, 1615 Croghan St., Fremont, Ohio.

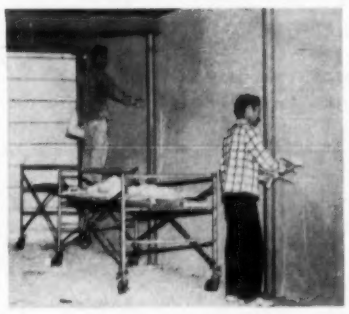
For more details circle NED-847 M7 on enclosed inquiry slip

FILL-MASKING MATERIAL
for small or intricate areas

Applied manually or automatically to recessed letters and symbols in areas too small or intricate to be individually masked, X-134 Series dry wipe letter-fill material dries rapidly and sets to maximum hardness in two days. The paint film dries to a powder for quick and easy removal from areas surrounding filled letters. Offered in black and white, it can be used on most plastics without causing haze or etch. Applications are dials and nameplates. Made by **Logo, Inc.,** 129th & Stony Island Ave., Chicago 33, Ill.

For more details circle NED-848 M7 on enclosed inquiry slip

PROTECTIVE COATING
for low-temperature insulations



Particularly applicable in refrigerated and cold storage rooms, Koldrok protective coating provides a smooth, rock-hard surface on such insulating materials as cork, Styrofoam, Rubatex, brick, concrete and glass fiber. In addition to improving sanitation and appearance, coating is fireproof. Finish is offered in wide range of standard colors, including white, red, gray, black, brown, and green. It is trowel applied in a thin, continuous coat over new or existing cooler or freezer room walls. It cures strong and hard to a durable surface that withstands impact and repeated washing. Made by **Selby, Battersby & Co.,** Dept. NED, 5210 Whitby Ave., Philadelphia 43, Pa.

For more details circle NED-849 M7 on enclosed inquiry slip

Hammond
DUS KOLECTORS MIST KOLECTORS

Cyclone DustKolector (other types available)

CAPTURE DUST and MIST

TO PROTECT EMPLOYEES' HEALTH . . . air pollution causes employee illness.

REDUCE MAINTENANCE COSTS . . . collect dust and mist at source.

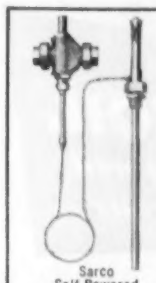
PROTECT PLANT . . . dust and mist is an explosive fire hazard.

MistKolector

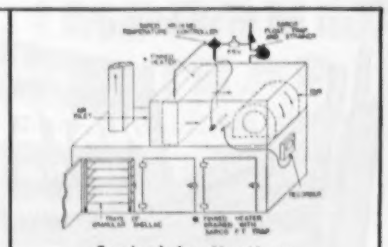
Write for Free Literature

Hammond Machinery Builders INC.
1623 DOUGLAS AVENUE • KALAMAZOO 54, MICHIGAN

For more details circle NED-850 M7 on enclosed inquiry slip



Sarco Self-Powered Temperature Control



Typical Applications
Dryers (as above), steam-jacketed kettles, shell and tube heat exchangers, condensers, oil storage tanks, etc.

End uncertain manual
TEMPERATURE CONTROL
. . . at low cost!

Here's how to get rid of uncertain, time-wasting manual temperature control . . . *throughout* your plant.

And without investing in complicated, costly equipment.

These SELF-POWERED Sarco controls are inexpensive, simple, dependable, accurate. Can be used for all but the few special jobs requiring costly, elaborate equipment. ½" size costs only about $100.

Self-powered . . . no electricity or compressed air needed. Self-contained. Packless. Simple—no gadgets. Easy to install by any pipefitter

Thousands in use by firms such as Colgate-Palmolive, Sinclair Refining, Swift.

Write for Bulletin 620 to Sarco Company, Inc., 635 Madison Ave., N.Y. 22, N.Y.

SARCO 2237-F

For more details circle NED-851 M7 on enclosed inquiry slip

NO SLIPS . . .
NO FALLS . . .
NO INJURIES

With Alcoa Abrasive Tread Plate

Hard, sharp particles of fused aluminum oxide give a grinding wheel its *bite* and Alcoa® Abrasive Tread Plate its *grip.*

This abrasive surface is rolled into tough, aluminum alloy plate. It can't come off. Its slip-proof qualities are more than surface deep.

It stays slip-proof when wet, oily, greasy.

Because it's aluminum, it is durable, corrosion resistant and never needs painting.

Use this safer, longer lasting tread plate wherever accidents might happen. Your safety committee knows all the places.

Just remember that 20,000 workers are killed and thousands injured in slipping accidents each year. If it prevents just one such accident in your plant, Alcoa Abrasive Tread Plate would be the best insurance you can buy.

Check the coupon for a four-inch sample and complete details. Aluminum Company of America, 1673-J Alcoa Building, Pittsburgh 19, Pennsylvania.

Your Guide to the Best in Aluminum Value

ALCOA ALUMINUM ABRASIVE TREAD PLATE

NEW! "ALCOA THEATRE", Exciting Adventure Alternate Monday Evenings

Aluminum Company of America
1668M Alcoa Building
Pittsburgh 19, Pa.

Please send literature and four-inch sample of abrasive tread plate.

Name and title _____
Company _____
Use being considered _____
Address _____
City and State _____

For more details circle NED-852 M7 on enclosed inquiry slip

pipe coils are old fashioned...

save on installation and maintenance, gain tank space and heat transfer efficiency

You can save up to 50% on installation and maintenance with prefabricated PLATECOIL units. PLATECOIL design gives you maximum heat transfer in minimum space.

SEND FOR FREE BULLETIN P57.

TRANTER MANUFACTURING INC. LANSING MICHIGAN

PLATECOIL® DIVISION

You'll find our catalog in Sweet's Plant Engineering file

For more details circle NED-853 M7 on enclosed inquiry slip

FASTER, BETTER INDUSTRIAL CLEANING

John BEAN AQUABLAST high pressure washers

Water discharged at 600 lbs. pressure from an Aquablast gun cuts through caked dirt, hardened deposits, gummy residues or accumulated grime like magic! John Bean Aquablast Washers are complete, motor driven pumping units for use with 1 to 3 guns.

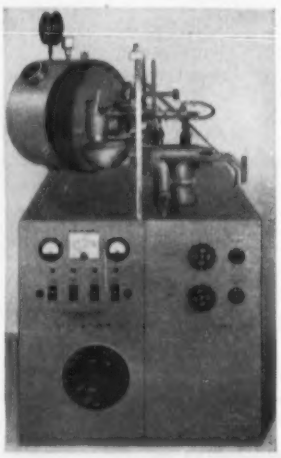
1 man with AQUABLAST equals a crew of men using ordinary water pressures

John BEAN Division of Food Machinery and Chemical Corporation fmc

INDUSTRIAL SALES DEPT. LANSING 4, MICHIGAN SAN JOSE 1, CALIFORNIA

For more details circle NED-854 M7 on enclosed inquiry slip

LOW COST VACUUM FURNACE for laboratory melting and heat treating



Compact packaged complete vacuum furnace with capacity 2 to 8 lbs. molten steel. Temperatures above 2000° C. Pressures down to 10^{-5} mm Hg. Used for melting, purifying, alloying, casting, as well as sintering, brazing, annealing, degassing, hardening and heat treating. Over 100 now in use for small parts production and development of materials with superior characteristics. **NRC Equipment Corp.**, Dept. 29M, Charlemont Street, Newton 61, Mass. Write for Bulletin 2904-B. *Advt.*

For more details circle NED-855 M7 on enclosed inquiry slip

New Literature & Catalogs

Metal Moldings

Serrick Corp., John Lees Div.—"Keeps You in Trim" is theme of 72-page color-illustrated Catalog 10C which details thousands of types and styles of metal moldings for functional, decorative, or other purposes on appliances, machines, furniture, and equipment. Tailored trim and moldings can be furnished in color-coated metal, anodized aluminum, and stainless steel in range of patterns and finishes for any need. Moldings are offered in every conceivable shape.

For more details circle NED-856 M7 on enclosed inquiry slip

Precision Investment Casting

Shaw process of precision investment casting for all castable ferrous and nonferrous metals is subject of illustrated booklet. It is similar in accuracy and finish to lost wax casting, but for castings up to ½-ton and larger in size. Simple refractory molds use low cost patterns and equipment. Write on company letterhead to Shaw Process Development Corp., Dept. K38, 80 Shore Rd., Port Washington, N. Y.

For more details circle NED-857 M7 on enclosed inquiry slip

Motors & Related Items

W. W. Grainger, Inc.—140-page wholesale catalog covers a line of name brand electric motors, appliances, power tools, power plants, blowers, air equipment, and other industrial items.

For more details circle NED-858 M7 on enclosed inquiry slip

Steel Shelving

Neiman Steel Equipment Co.—Line of convertible steel shelving for offices, plants, and warehouses is described in 24-page illustrated Catalog 50. Included are sections on shop equipment, parts, and assemblies.

For more details circle NED-859 M7 on enclosed inquiry slip

Motion Pictures Described

Colorado Fuel & Iron Corp.—Fourteen sound-color motion pictures available on a free loan basis are described in this booklet. All films are 16 mm and have running times of 15 to 38 minutes. Subjects include rails, wire rope, grader blades, chain link fence, concrete reinforcing wire, Lectro-clad nickel plated steel, oil well casing, and mine rock bolts.

For more details circle NED-860 M7 on enclosed inquiry slip

Loudspeakers & Accessories

University Loudspeakers, Inc.—Paging and talk-back speakers, heavy duty trumpets and driver units, submergenceproof speakers, portable sound-casting systems, and super power sound projectors are described and illustrated in 12-page catalog. Specifications and application information are included, along with prices. High fidelity speakers, systems, and enclosures are also described.

For more details circle NED-861 M7 on enclosed inquiry slip

V-Belt Drives

Dodge Mfg. Corp.—Selection and operation information on Dodge V-belt drives is found in comprehensive 108-page Bulletin A661. Standard, variable speed, and special drives; Taper-Lock sheaves; Sealed-Life V-belts; and Taper-Lock bushings and hubs are described and illustrated. Data are presented in table form.

For more details circle NED-862 M7 on enclosed inquiry slip

Alloy Temperature Chart

Rolled Alloys, Inc.—Alloy temperature range chart graphically shows useful temperature range of six alloys, spanning heats from 1000 to over 2100° F. Physical and mechanical properties are provided.

For more details circle NED-863 M7 on enclosed inquiry slip

Electrical Parts & Components

Cambridge Thermionic Corp.—75-page Catalog 600 contains comprehensive information on electrical and electronic components, including such items as solder terminals, terminal boards, electrical hardware, coil forms, coils, and capacitors.

For more details circle NED-864 M7 on enclosed inquiry slip

Industrial Equipment of Many Types

R. C. Mahon Co.—Briefly described and illustrated in Catalog A-658 are finishing systems for various finishes, metal cleaning and pickling equipment, dry-off ovens, spray booths, flow and dip coaters, drying and baking ovens, dust collectors, sludge segregators and unloaders, and steel hoppers.

For more details circle NED-865 M7 on enclosed inquiry slip

NEW really NEW REGULATORS with SELF-CLEANING PISTONS

• NOW, after 3 years of exhaustive field tests and over 5,000 installations working perfectly, Leslie announces a new development to reduce maintenance time on piston-actuated regulators. Now, all Leslie piston-actuated regulators for temperatures up to 500 F. are equipped with self-cleaning, pressure-sealing pistons in ½" to 6" sizes—at NO EXTRA COST. You can have this feature in your present Leslie regulator, too.

Send for FREE data

LESLIE REGULATORS and CONTROLLERS

LESLIE CO., 227 Grant Avenue, Lyndhurst, New Jersey

For more details circle NED-866 M7 on enclosed inquiry slip

POWER SPEED and STAMINA

with CABLE TYPE ELECTRIC HOIST and MOTORIZED TROLLEY

check these DR 55 features:

✔ Lifting speed...25 fpm
✔ Trolley travel...65 fpm
✔ Close headroom hoist design
✔ Permanent gear lubrication
✔ LOW maintenance cost

Dependably Rugged

See Your Distributor TODAY...or WRITE for BULLETIN

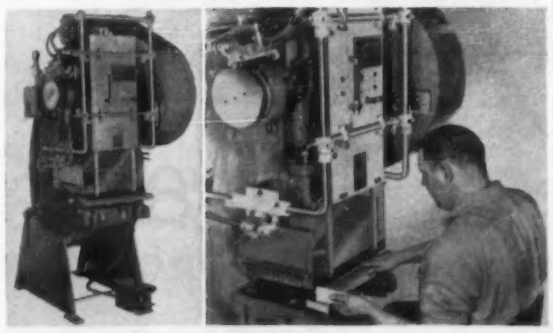
DAVID ROUND & SON, INC.

Since 1869 P. O. BOX 883, CLEVELAND 22, OHIO

HOISTS • WINCHES • CRANES • TROLLEYS • SHEAVES • HOIST CHAIN

For more details circle NED-867 M7 on enclosed inquiry slip

PRESS GUARD



• Increases production
• Positively fail-safe
• Air operated
• Fits all size presses
• Permits all operations
• Protects operator, die setter, the inexperienced
• Meets all legal requirements

Bulletin, "Airgard," 8 pages

AMERICAN ALLSAFE CO. INC.

1245 Niagara St., Dept. NE, Buffalo 13, N. Y.

Phone: GArfield 8300

For more details circle NED-868 M7 on enclosed inquiry slip

toughest scoops and shovels *made*

WOOD'S **Moly** BRAND

Mo-lyb-den-um alloy blades

Pat. Steel I-Beam Prevents Handle Breakage

Workers like them for hang, balance, and perfect finish . . . and they last 2 to 3 times as long as other grades. Blades guaranteed uniform gauge, hardness, and tensile strength. Guaranteed not to split or crack. Guaranteed uniform quality 12 to the dozen. Cheapest shovels you can buy for long hard service, and workers take care of tools they like.

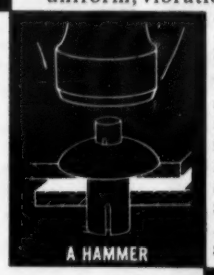
THE WOOD SHOVEL & TOOL CO.
Piqua, Ohio

For more details circle NED-869 M7 on enclosed inquiry slip

3 STEPS TO
FAST, ECONOMICAL
SOUTHCO
RIVETING

SOUTHCO Drive Rivets, for blind or open applications, make a secure, uniform, vibration-resistant joint every time. Simply hit the pin with a hammer—they set themselves. No bucking, no finishing necessary. A wide range of head styles, diameters and grip lengths . . . aluminum or steel.

- *No special tools*
- *Real pull-up*
- *As easy as driving a nail*



SEND FOR *FREE* RIVET FOLDER
Write to: Southco Division, South Chester Corp., 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS LION
© 1957

For more details circle NED-870 M7 on enclosed inquiry slip

New Processes & Materials

RESIN PROTECTIVE COATING will not chip or peel even when bent or dented

Unusual corrosion, impact, and weather resistant properties are demonstrated by Mono-Seal synthetic resin protective coating which contains newly discovered silicones and epoxies. It cures both by solvent evaporation and internal polymerization, and affords protection against a wide range of acids, alkalies, oils, solvents, plasticizers, moisture, and temperature extremes. Mono-Seal is durable on all types of surfaces under conditions of snow, rain, ice, humidity, salt sea air, or corrosive industrial atmospheres. Its natural stretch property allows it to be bent or dented without chipping or peeling.

Coating comes in a three-part package consisting of resin, activator, and thinner which are mixed according to instructions and desired film thickness. It can be brush, spray, or dip applied to protect equipment, structures, tanks, floors, trucks, boats, ships, and machinery. Coating is available in 22 standard colors and clear. Semigloss and flat are available on special order. Formulated by **Mono-Seal Products,** 50 Garden St., Everett 49, Mass.

For more details circle NED-872 M7 on enclosed inquiry slip

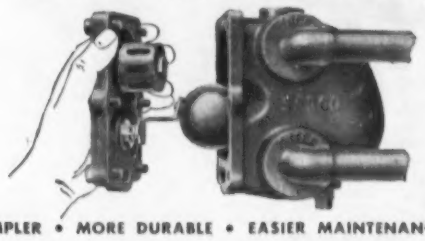
PLASTIC BUFFING COMPOUND imparts antistatic properties

Formulated for scratch-free finishing of all plastics, PC-93 buffing compound contains an ingredient to impart antistatic properties to part being finished. A built-in lubricant eliminates problems of roll-over or burning, particularly when softer plastics are involved. Antistatic property often eliminates the extra processing step of immersing the part in a destaticizing solution. Antistatic properties are retained by the part through a series of subsequent handling operations. Finish provided by compound is clear and unclouded, making it suitable for clear plastics. It is available in standard bar sizes for both manual and automatic applications. Made by **Hanson-Van Winkle-Munning Co.,** 10 Church St., Matawan, N. J.

For more details circle NED-873 M7 on enclosed inquiry slip

NEW-IMPROVED STEAM TRAP

Float-Thermostatic Type FT



SIMPLER • MORE DURABLE • EASIER MAINTENANCE

1. **Stainless steel valve mechanism** — valve arm, bracket, hardened seat, ball head.
2. **Ball bearing valve head** —stainless steel. Accuracy and hardness insure tight shut-off, long life.
3. **Heavy-wall copper float** —reinforced at lever connection, copper-plated.
4. **Thermostatic bellows** — to insure long life, it's made of special copper alloy, drawn and corrugated by exclusive process in Sarco's plant.
5. **Semi-steel body and cover** — 125 psi steam pressure rated.
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Sizes — ¾" and 1"
Working Pressures — up to 125 psi

Write for Bulletin 455-B to Sarco Company, Inc., 635 Madison Avenue, New York 22, N. Y.

2248-F

SARCO

For more details circle NED-874 M7 on enclosed inquiry slip

13 Diameters
Two Thread Sizes
Two Std. Lengths

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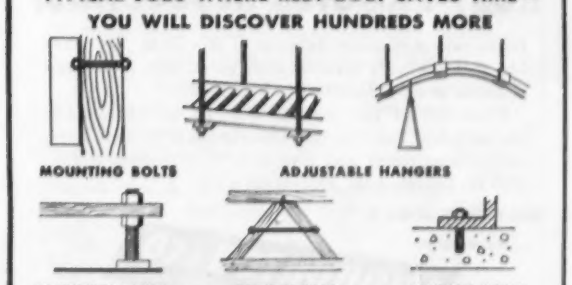

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Precision-made power tools of unsurpassed performance
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Model "YE" by
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(Test count-life over 70 million)

Offered in TWO STYLES:
1. Quick PUSH-BUTTON RESET
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First high-speed electrically actuated counters with added advantage of electric reset. Clean-cut, legible 3/16" figures, white on black. Ideal for all high-speed electric counting applications — accurate at high, low or intermediate speeds.

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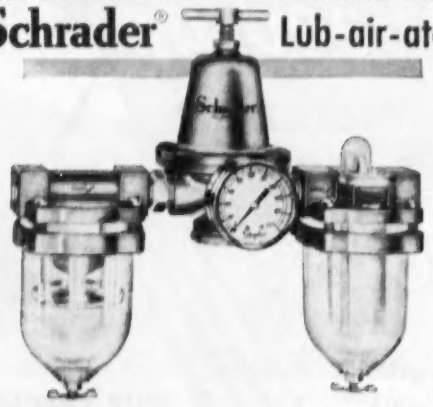

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Division of Scovill Manufacturing Company, Incorporated
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DIES
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Ready to give you on-the-job service . . .

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New Literature & Catalogs

Industrial Instruments & Controls

Foxboro Co.—60-page illustrated Catalog 500 is a loose-leaf compilation of information and prices on more than 250 instruments, controls, supplies, and accessories. Manual is divided into mechanical, pneumatic, electric-electronic, general, and tools and service sections. Described are devices for indicating, measuring, or controlling flow, pressure, temperature, pH, humidity, position, viscosity, vacuum, torque, strain, and hundreds of other variables.

For more details circle NED-881 M7 on enclosed inquiry slip

Tables & Hand Dryers

Chicago Hardware Foundry Co.—Thin-Line decorative metal trimmed tables for industrial and commercial use are primary subject of 20-page Catalog 1150. Offered in any of 20 decorator colors, tables are attractive and utilitarian. Work tables, benches, stools, and chairs are also described. Briefly covered are Sani-Dri hand and hair dryers for washroom use.

For more details circle NED-882 M7 on enclosed inquiry slip

Toolroom Grinding Techniques

Carborundum Co.—"Tool Room Grinding of Alloy, High Speed, and Die Steels" is title of 24-page Guidebook No. A-1482. This manual discusses such subjects as aluminum oxide abrasives, their properties and uses; wheel shapes and markings; grinding chasers, cutters, broaches, circular form tools, and hobs; tap sharpening; offhand, cylindrical, and surface grinding; and sticks, stones, and finishing compounds.

For more details circle NED-883 M7 on enclosed inquiry slip

Centralized Lubricating Systems

Trabon Engineering Corp.—Diagrams, sketches, and application stories on the Trabon Multizone centralized lubricating system used in the cement industry are found in 8-page illustrated Bulletin 578. System makes it possible to lubricate hundreds of bearings from one central station.

For more details circle NED-884 M7 on enclosed inquiry slip

Cutters & Accessories

Brown & Sharpe Mfg. Co.—96-page Catalog 37C pictures and describes a complete line of metal cutting tools, as well as arbors, adapters, collets, vises, index plates, work-driving dogs, taper mandrels, expansion bushings, and spring chucks. Listed for the first time are over 200 new items, including a new line of ball-end mills in double-end and extended lengths, and an additional line of shell end mill arbors.

For more details circle NED-885 M7 on enclosed inquiry slip

Powered Industrial Trucks

"The Handbook of Powered Industrial Trucks" is a 96-page handbook which is divided into five sections: Industrial truck applications, cost savings, planning for and selection of trucks, engineering data, and industrial trucks and the future. Many case studies and almost 200 illustrations of truck types, attachments, containers, and load carrying devices are included. Much data are in graph, table, and chart form. Available for $5 from Industrial Truck Association, Ninth & F Sts., Washington 4, D. C.

For more details circle NED-886 M7 on enclosed inquiry slip

Industrial Inks

Phillips Process Co.—Clear Print industrial inks for rubber stamps, letterpress and dry offset printing, code marking, pen or brush, or stencil use are described and priced in 4-page bulletin.

For more details circle NED-887 M7 on enclosed inquiry slip

Metal Furniture

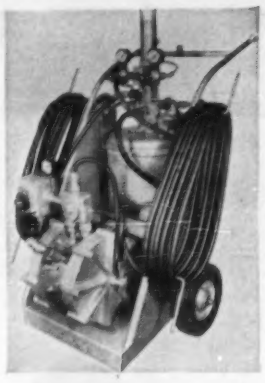
Howell Co.—Electroplated Bronztone finish that is chip and crackproof and resistant to tarnishing is feature of line of modern metal furniture described and illustrated in color in 24-page Catalog 28. Davenports, sectionals, arm chairs, ottomans, double seat benches, occasional tables, dining and conference room tables and chairs, and desks are detailed.

For more details circle NED-888 M7 on enclosed inquiry slip

57 Chemical Processes for Metals

Turco Products, Inc.—Among the 57 chemical processes discussed in 16-page illustrated Manual A-33C are cleaning, phosphating, conversion coating, protective coating, paint and carbon removing, rust removing and preventing, descaling, electroplating, and inspecting. Nine reference charts are included.

For more details circle NED-889 M7 on enclosed inquiry slip



NEW HOT SPRAY PACKAGE UNIT IS SELF CONTAINED AND PORTABLE

The "Little Chief", Spee-Flo Company's new self-contained unit, is the first to offer a complete, portable hot spray system with the capacity and long hose lengths needed for all types of maintenance painting, metal finishing and other applications requiring portability and large work radius application. The mobile unit provides hot spray temperatures for one or two guns on hose lines up to 75 feet in length. It combines the U.L. approved Spee-Flo hot spray heater and divorced action pump in a single compact unit which takes the original paint pail. Temperature selection is automatic with a dial-type controller. A single air and electrical connection places the complete spraying system in operation. For complete information on this and other Spee-Flo Hot Spray Systems, write for literature and free booklet, "Why Hot Spray?" The Spee-Flo Company, 720 Polk Avenue, Houston, Texas.

For more details circle NED-890 M7 on enclosed inquiry slip

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The Nylok* self-locking feature locks these screws securely in place. They won't work loose. Can be used repeatedly. Tough, resilient nylon locking pellets permanently installed. Successfully withstand temperatures ranging from —70 to 250°F. Low, streamlined heads with accurate hex sockets for positive nonslip drive and freedom from marred or mutilated heads. Heat treated alloy steel, continuous grain flow lines, fully formed Class 3A threads for maximum strength and exact fit. Pellets act as liquid seals. Standard sizes #6 to ⅝ in. Write for Bulletin 2193. Unbrako Socket Screw Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

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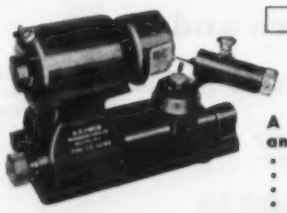

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For immediate attention write directly to manufacturer below.
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For more details circle NED-892 M7 on enclosed inquiry slip

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Old obsolete steam traps—traps with scored valves—badly worn parts—improper alignment of valves and seats—permit steam to escape. This results in tremendous losses of fuel. Check your steam traps. If they are wasting fuel, change to Super-Silvertops, the engineered trap. Order from your jobber or Anderson agent today.

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The Engineered Steam Trap

ANDERSON SUPER-SILVERTOP STEAM TRAPS

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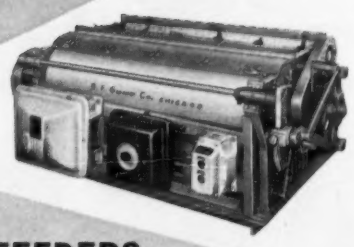
Regulate Bulk Feeding . . .

and prevent production choke-ups!



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Prevent overloading of production machines. Accurate, trade-proved Draver Feeders regulate the flow of dry free- or nonfree-flowing products . . . keep processing equipment operating at most efficient capacity . . . prevent machine failure and downtime. Now available with timing controls, for feeding to continuous processes at automatic intervals. Capacities from minute quantities up to thousands of pounds per hour. What is your bulk feeding problem? Write our engineering department for a solution, without obligation.

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Complete Service Facilities Send for Details and Literature

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New Processes & Materials

ALUMINUM PAINT
air dries to durable matte finish

Usable on equipment, interior and exterior walls, and on railings and bannisters, Non-Smudge aluminum paint air dries to a matte finish. It will not rub off on hands or clothing, once dry. Applicable by brush, spray or roller, paint is extremely durable and will retain its soft-finish aluminum tone indefinitely. Sample is available from **T. J. Ronan Co.,** Dept. A, 749 E. 135th St., New York 54, N. Y.

▲ For more details circle NED-896 M7 on enclosed inquiry slip ▲

WIPING CLOTH
nonwoven type is free of lint

Ability to absorb 9 to 10 times its weight in water and 7 to 8 times its weight in oil is claimed for Tex-Pro Kwik Wipe, a nonwoven all-cotton wiping cloth. It is free of lint and is treated to lower surface tension. It withstands water, oil, gasoline, kerosine, and mineral spirits. Dry tensile strength is about 5 to 7½ lb per inch of width. Disposable product is uniformly cut and is offered in bundles of 100 weighing 50 per pound. Price is $19.50 per case of 1000 wipers measuring 12 x 18 in. each. Distributed by **Textile Products,** Dept. E, 181-189 Chestnut St., Newark 1, N. J.

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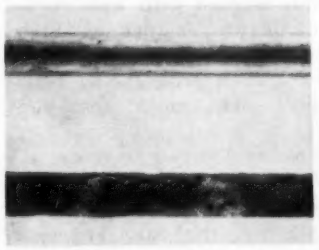
NICKEL-ALLOY CLADDING
adds corrosion and wear resistance



Nickel - alloy coatings can be applied to a wide range of ferrous metals to add corrosion or wear resistance by the Niphos process, adaptable to all shapes and sizes of parts. After application, the Niphos coating is heated in a reducing atmosphere to assure a tightly-adhering nickel-alloy cladding which will not peel or flake even when subjected to a 180-degree bend. Coating can be applied locally to areas which are to be joined by brazing, and can be up to 0.025 in. thick in one application. Repeated applications allow resurfacing or buildup of worn base metal areas. Coatings can prevent scaling of base metal at up to 1150° F. Photo shows clad and untreated 1½-in. pipes which served in corrosive atmosphere as part of tanker's heating coil system. Process is offered by **Tube Reducing Corp.,** 528 Main Ave., Wallington, N. J.

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WIPCO WIRE PARTITIONS

cost less to erect and maintain

WIPCO WIRE PARTITIONS CAN BE USED AGAIN AND AGAIN

- STOCK ROOMS
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Increase plant efficiency with WIPCO wire partitions and enclosures. WIPCO partitions are made in standard sizes to fit any requirement. Each section is a complete unit ready for erection, and your own men can easily put up WIPCO partitions without outside help. Use them over and over again, wherever and whenever you need them.

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☐ Bulletin 101—Hoover Quality *Micro-Velvet* Balls.

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for

- high arc-resistance
- low moisture-absorption
- dimensional stability in oil
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electrical insulation

If you're looking for the excellent electrical and mechanical properties and workability of fibre, yet need a material with as little as one-fourth the moisture-absorption of fibre—*at low cost*—CDF VULCOID is it.

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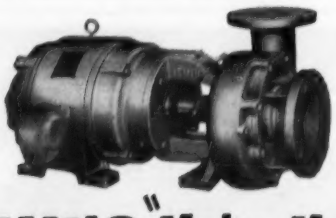

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USES: Pumping a wide variety of non-corrosive liquids in manufacturing, chemical, paper, construction and other industries. (Applications where corrosive, high pressure, high temperature, or "questionable" liquids are encountered should be referred to your Deming Distributor, or to us.)

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MOTORS: Standard drip-proof, moisture-insulated, fan-ventilated type . . . 1 through 30 horsepower.

FEATURES: Fully illustrated and explained in a free, 8-page, 2-color bulletin.

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Includes details on construction features, materials of construction, mechanical shaft seals, performance tables and curves, and dimensions. Write to:

THE DEMING COMPANY

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For more details circle NED-903 M7 on enclosed inquiry slip

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Here's a complete, one source solution for level control of all types of liquids. 12000 Series offers unusually wide selection of ranges — spans from 14" to 120" and longer. Plus, wide choice of pressure ratings and selection of materials for handling practically all applications.

Wide variety of control types: Proportional, proportional-reset, differential-gap; plus pneumatic set for remote adjustment of set point. Full selection of mounting connections to meet vessel requirements.

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Complete Line of Control Valves, Control Instruments, Regulators, Liquid Level Controllers and Special Process Control Equipment.

For more details circle NED-904 M7 on enclosed inquiry slip

New Literature & Catalogs

Plastic Foam & Sponge Rubber

Brown Rubber Co.—Relative merits of sponge rubber, vinyl foam, and urethane foam for use as sealing, cushioning, and dampening components are detailed in 12-page brochure "To Make Your Product Better." Differences in performance characteristics are pointed out. Many suggested applications are given.

For more details circle NED-905 M7 on enclosed inquiry slip

Controlled Temperature Equipment

Blue M Electric Co.—Electric ovens, furnaces, Magni-Whirl water and oil baths, environmental cabinets, and controlled temperature equipment for laboratory, pilot plant, and production use are described and illustrated in 48-page Catalog M-57. Condensed specifications are given for 1 to 96 cu ft units with a 32 to 2850° F range.

For more details circle NED-906 M7 on enclosed inquiry slip

Screw Machine & Lathe Tools

R & L Tools—Listings and prices of precision tools for automatic screw machines and turret lathes are contained in 32-page illustrated catalog. Among them are knurling, swing tool, and on and off-center drilling attachments; turning, swing, knurling, recessing, tool slide knurling, and cross slide knurling tools; and backrests, floating drill holder, tap and die holders, universal tool post, blades and blade holders.

For more details circle NED-907 M7 on enclosed inquiry slip

Laminated Hardboards

Masonite Corp.—Use of high density, light weight Benelex hardboard laminate as an industrial die stock, in finished products, and in the design of electronic equipment is discussed in detail in 12-page Masonite Data Book 2b/Ma. Readily worked with woodworking tools, material is made in two densities, has high tensile strength, and weighs about half as much as aluminum. It is usable for such products as table tops, breaker strips, spool ends, mock ups, and handles.

For more details circle NED-908 M7 on enclosed inquiry slip

Wire Rope & Cable Assemblies

Macwhyte Co.—Safe-Lock Industrial Standard wire rope assemblies described in 24-page illustrated Catalog 5601 include specifications of pin eye, standard fork, small ring eye, standard and threaded sleeve, stud, standard and safety hook, and swaged terminal types. Also presented are technical data to aid in designing and application of wire rope assemblies for control, material handling, bracing, and many other purposes.

For more details circle NED-909 M7 on enclosed inquiry slip

Electronic Research & Production

Cubic Corp.—"Research . . . Development . . . Production" is title of 36-page brochure which details facilities and personnel of this electronics firm in the areas of electronic system and subsystem study, design, and program management; development and limited production of heavy ground electronic equipment, miniaturized missile-borne electronics, digital data-handling equipment, and test equipment for laboratory and field; and engineering field services.

For more details circle NED-910 M7 on enclosed inquiry slip

Small Parts Cabinets

Akro-Mils, Inc.—Results of an analysis of small parts storage methods and problems in factories, offices, laboratories, repair and maintenance departments, and shipping departments are published in a 32-page illustrated booklet "This or This?" Before and after photos show the problem and how it was solved.

For more details circle NED-911 M7 on enclosed inquiry slip

Wire & Cable

Second edition of the "Rome Cable Manual of Technical Information" is a 393-page book of eight sections: Wire and cable technical tables, engineering calculations and data, communication frequency data and calculations, National Electrical Code data, properties of metals, general technical information, conversion tables, and cable installation practices. Increased in size by 130 pages, it is well indexed and emphasizes new materials and methods in the field. Cost is $4.62 postpaid. Available from Rome Cable Corp., Rome, N. Y.

For more details circle NED-912 M7 on enclosed inquiry slip

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in Hydraulic Systems

"It takes only one or two flakes of rust passing through precision pumps and valves to scratch surfaces enough to reduce the efficiency of these components. A scratch on a pump piston can cause an excessive amount of slippage resulting in horsepower loss and overheating. . . ."

Reprinted from APPLIED HYDRAULICS April 1956—page 74

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Other low pressure models to 3" pipe size.

High pressure models also available.

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Magnetic Separators

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For more details circle NED-913 M7 on enclosed inquiry slip

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of the Strength and Grip of National Electric E. M. T. Couplings

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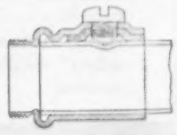
National Electric E.M.T. Fittings are safe and strong because of the sturdy one-piece pressed steel body and outstanding holding action of the patented NE embedding screw.

A screwdriver is all that is needed to install National Electric E.M.T. fittings. Try them . . . they are sold by leading electrical distributors everywhere.

National Electric E.M.T. fittings make a vibration proof bond that won't loosen unless the screw is purposely released.



PATENT NO. 2,455,180

National Electric Products

PITTSBURGH, PA.

2 Plants • 12 Warehouses • 41 Sales Offices

For more details circle NED-914 M7 on enclosed inquiry slip

Balance Rotating Parts

FASTER...EASIER

No setup, no leveling, no centering. Chilled iron discs, ground and balanced to extreme accuracy, rotate with minimum friction on special bearings. Glass-hard spindles and bearings prevent wear or ball-bearing indentations when balancing heavy weights. Superior accuracy lasts throughout the long life of the balancing ways. Proved and preferred 38 years. For information on sizes, types, and prices of Anderson Ways, write for Bulletin 12-40.

Anderson

Write for Bulletin 12-40

ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

For more details circle NED-915 M7 on enclosed inquiry slip

Here's a new twist in time-savings!

fasteners by FASTEX

Send for this free catalog that shows you how to untwist time consuming screw driving with FASTEX® ¼ (yes, one-quarter) turn "Q" Fasteners. Tells all about the three types that cover every application. Write for Quick Fastener booklet today!

FASTEX

195 Algonquin Road, Des Plaines, Illinois
In Canada: SHAKEPROOF-FASTEX, Division of Canada Illinois Tools Ltd., Toronto, Ont.
A DIVISION OF ILLINOIS TOOL WORKS

For more details circle NED-916 M7 on enclosed inquiry slip

Mono-Seal
The All-In-One
Protective Coating for New and Old Equipment

Super tough, multi-property plastic type coating outlasts ordinary finishes two to five times.

- Costs less to apply
- Elastic — won't chip, crack or peel
- Resists most chemicals, corrosives and abrasion
- Only protective coating with choice of 22 decorator colors (plus special matching if needed)
- Tested and proven for over four years

Send for NEW BULLETIN

Find out how to get this extra protection— now!

D-H Mono-Seal

MONO-SEAL PRODUCTS • 50 GARDEN ST. • EVERETT 49, MASS.

See us at Booth 461, Plant Maintenance and Engineering Show

For more details circle NED-917 M7 on enclosed inquiry slip

New Processes & Materials

LIGHT-WALL TUBE & FITTINGS for mechanically coupled piping

Particularly suited for temporary, semipermanent, or permanent mechanically-coupled piping systems in mining, petroleum, construction, and processing industries, mill grooved, light wall, electric resistance welded, Electrunite steel tubing is easy to handle. Tubing is furnished with a uniform wall thickness in the grooved section so that it can be connected with Victualic leakproof mechanical couplings. Also available is a portable hand grooving tool for field forming of grooves. Victualic fittings include elbows, tees, caps, reducers, and adapter nipples in light and heavy duty snap-joint and bolted types. Tubing is made by **Republic Steel Corp.**, Steel & Tubes Div., 214 E. 131st St., Cleveland 8, Ohio.

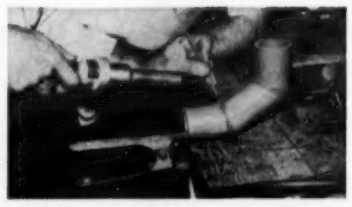
For more details circle NED-918 M7 on enclosed inquiry slip

MULTIFOLD PAPER TOWEL drying area is increased

Improved No. 180 multifold paper towel has been widened by ⅜ in., adding 3½ sq in. to its drying area. Towel area is now 92.58 sq in. New size improves dispensing from standard multifold towel cabinets. Cases contain 15 sleeve packages, with 250 towels per sleeve. Made by **Scott Paper Co.**, Dept. NED, Chester, Pa.

For more details circle NED-919 M7 on enclosed inquiry slip

POLYVINYL CHLORIDE PIPE in ¼ through 6-in. sizes



Polyvinyl chloride pipe in sizes ¼ through 6 in. is now available nationally through Byers distributors. Type I is a pure PVC pipe that is particularly adapted to chemical and related applications. Type II PVC pipe is modified with rubber to give it high impact strength for applications involving mechanical abuse. Both types of pipe are available in standard, heavy, and extra heavy weights. Broadest fields of use are in chemical and oil industries, handling corrosive materials. Particular services include pipelines for chemicals, food processing, petroleum products, drugs, pulp and paper processes, and mining. Photo shows a typical welding job on a PVC pipe. Made by **A. M. Byers Co.**, Clark Bldg., Pittsburgh, Pa.

For more details circle NED-920 M7 on enclosed inquiry slip

Jacketed Spring Loaded PLUG VALVES

LONG ON SERVICE . . . SHORT ON MAINTENANCE

H & B's new fully jacketed spring loaded plug valves feature an inverted tapered plug inserted and lapped into the housing from the bottom of the valve—then spring loaded. The spring wedges the plug to a perfectly tight seal, eliminating troublesome leaks. Easy to operate—no big handwheel . . . no freeze . . . no "breaking loose" necessary. Easy to clean. Made in two port or multi port design, with any special stop arrangement desired.

Available in 2-way or straight, 3-way or angle, also air cylinder operated—all sizes and types. Bulletin J-57 sent on request.

HETHERINGTON & BERNER INC.
715 KENTUCKY AVE. INDIANAPOLIS 7, IND.

For more details circle NED-921 M7 on enclosed inquiry slip

draws 5½" deep in one SMOOTH OPERATION!

RODGERS PLATEN PRESS forms 220 tackle box bottoms per hour with a single draw 5½" deep and retains the leather-grained embossed pattern without distortions or fractures.

Rodgers 100 Ton Platen Press with high speed circuit for fast approach and return of platen. Upper knock-outs pneumatic die cushion. Accurate clamping pressures insure smooth, even draws.

This strong, lightweight, rust-proof and moisture-proof aluminum fishing tackle box is the new Model 1000, made by the UMCO Corp. of Minneapolis, Minn.

A Rodgers 100 Ton Platen Press was chosen by UMCO because of its extremely smooth, efficient operation. The bottom, 18" long, 9" wide, is drawn 5½" in depth—the top is formed in one draw and cut apart—the carrier band is also formed in a single operation. Material is 18 gauge, leather-grained, embossed aluminum.

It requires a really smooth operating press to make these deep draws and still retain the original embossed pattern and turn out top quality production without fractures or scrap. Rodgers does it!

Rodgers Platen Presses are offered in capacities from 50 to 500 tons. Write for more information to suit your operations.

Light, rust and moisture-proof aluminum tackle box having 53 plastic lined compartments, by UMCO.

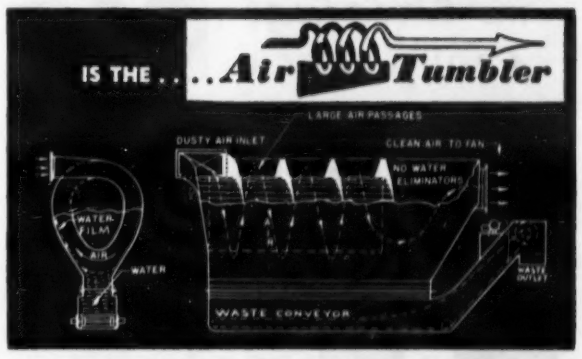
Model 1000 UMCO tackle box puts lift at bottom—where it belongs.

Rodgers Hydraulic Inc.

7425 Walker Street • Minneapolis 26, Minnesota

For more details circle NED-922 M7 on enclosed inquiry slip

The MASTER of DUST in INDUSTRY



SIMPLE—DEPENDABLE—NO FIRE HAZARD
HIGH EFFICIENCY—CONSTANT CAPACITY
LOW HUMIDIFICATION—LOW OPERATING COST

More than one million CFM in ONE plant

Write for Bulletin No. 551. Address:

DUST SUPPRESSION & ENGINEERING CO.

P. O. BOX 67 • LAKE ORION, MICHIGAN

For more details circle NED-923 M7 on enclosed inquiry slip

EXPLOSION PROOF SOLENOIDS AND SOLENOID OPERATORS

FX-326 SOLENOID
FX-300 LINE
EXPLOSION PROOF SOLENOIDS

R2DX-326
RDX-300 LINE

The FX-300 explosion proof solenoids and the RDX-300 explosion proof solenoid operators have a variable stroke. For the standard models at minimum stroke, the capacity at 85% voltage ranges from 8 lbs. at 0.47" stroke to 300 lbs. at 1.67" stroke. At maximum stroke, the capacity ranges from 3 lbs. at 1.25" stroke to 100 lbs. at 5" stroke.

By the use of external levers longer than the standard ones, the maximum stroke can be increased with corresponding decrease in pull.

For external levers twice as long as the standard ones, the capacity at maximum stroke ranges from 1.5 lbs. at 2.5" to 50 lbs. at 10". Other combinations are possible.

Ask for Bulletins EE-191 and EE-193 or our complete catalog. See our catalog in Sweet's Catalog Service. There is a Trombetta solenoid for every imaginable requirement.

TROMBETTA SOLENOID CORP.
329 N. MILWAUKEE ST. • MILWAUKEE, WIS.

For more details circle NED-924 M7 on enclosed inquiry slip

Fastest way to address cartons

Here's a way to address cartons that puts less modern methods to shame. Inexpensive, paper stencil is cut on a typewriter—separately or as by-product of shipping paper-work. It's then attached to small handprinter to imprint addresses directly on containers within "label frames" that have been pre-printed on the cartons by the carton manufacturer. Fast, clean, very inexpensive.

1 of 7 shipment addressing ideas described in new 16-page booklet. Send for free copy

Weber

Weber Marking Systems
Div. of Weber Addressing Machine Co., Inc.
Dept. 21-L
Mount Prospect, Ill.

For more details circle NED-928 M7 on enclosed inquiry slip

THE *Original* 4 POINT PUNCH **NYE KNOCKOUT PUNCH**

Each punch ½" to 4" has the ORIGINAL 4-POINT cutting feature which takes the toil out of the job. Cuts clean, quick knock-outs speedily, smoothly and burrless. Ball bearing chuck prevents friction. Hand or hydraulic.

Try a NYE and know the best. Order today.

NYE TOOL COMPANY
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For more details circle NED-929 M7 on enclosed inquiry slip

FOR AIR-DUST OR FUME CONTROL...

Get this FREE catalog

WRITE TODAY FOR CATALOG #70 SHOWING NEW INDUSTRIAL APPLICATIONS

FLEXAUST hose and PORTOVENT retractable ducts are made of strong durable neoprene coated nylon or cotton fabrics, wire reinforced for suction or pressure uses. Sizes 1¼" to 36" i.d.

INSTALLED IN MINUTES . . . IN SERVICE FOR YEARS

THE FLEXAUST COMPANY
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DISTRIBUTORS IN ALL PRINCIPAL CITIES

For more details circle NED-930 M7 on enclosed inquiry slip

New Literature & Catalogs

Agitating Equipment

Eclipse Air Brush Co.—Additions to extensive line of laboratory and production agitating equipment are described and illustrated in 16-page Pneumix catalog.

For more details circle NED-931 M7 on enclosed inquiry slip

Terminals, Connectors, & Blades

Electric Terminal Corp.—Standard line of ring, spade, hook, flag, and insulation piercing terminals; terminals and connectors for welding to wires, pins, plugs, and receptacles; banding clips for permanent splices; heater cord connectors, strain reliefs, and other products are described in illustrated 12-page catalog. Terminal attaching machines are also covered.

For more details circle NED-932 M7 on enclosed inquiry slip

How to Weld Every Base Metal

Eutectic Welding Alloys Corp.—Covered in 180-page 1958 edition of the "Welding Data Book" are 120 welding rods, electrodes, and welding compounds used in simplified welding procedures for every base metal. How-to-weld information is given for fabrication, maintenance repair, and salvage; overlaying for wear and corrosion resistance; and welding of dirty, rusted parts. Also described are welding joints for high electrical conductivity, preparation steps, how to get maximum machinability, and increasing weld strengths.

For more details circle NED-933 M7 on enclosed inquiry slip

Heat Exchangers & Condensers

Pfaudler Co.—General uses and installation sketches of shell and tube equipment are illustrated, and listings for heat exchanger applications in process industries are charted in 28-page Bulletin 949. Section is devoted to design and construction features of heat exchangers and condensers. Much tabular data are included.

For more details circle NED-934 M7 on enclosed inquiry slip

Hydraulic, Air, Gas, & Liquid Line Filters

Filtros Inc.—Flo-Clear filters for hydraulic systems, air, gas, and liquid lines feature high efficiency, long life, and ease of cleaning. As described in 4-page illustrated Bulletin 17, the ceramic filters are impervious to oils, most organic and inorganic acids, and acid salts.

For more details circle NED-935 M7 on enclosed inquiry slip

Hydraulic Valves

Fluid Controls, Inc.—Relief, check, and flow control hydraulic valves are described and depicted with detailed engineering drawings in 16-page revised General Catalog 551. Sizes and performance data for each style are included, as is a section on valve selection.

For more details circle NED-936 M7 on enclosed inquiry slip

Stainless Fasteners

Allmetal Screw Products Co.—52-page illustrated stainless fastener stock list and data book covers commercial and military fasteners of stainless steels, Monel, titanium, and other metals. Specials are also listed. Specifications and other data on 40 basic fastening devices are included, as are engineering and application data on the metals from which they are made.

For more details circle NED-937 M7 on enclosed inquiry slip

Power Transmission Belting

Extremultus, Inc.—Data needed to engineer and select various belt drives are contained in 12-page catalog. Belting made of polymer and chrome tanned leather is described. Sections deal with belt specifications, selection of proper type, tensioning and maintenance, and bearing load reduction.

For more details circle NED-938 M7 on enclosed inquiry slip

Couplings for Rolling Mill Drives

Ajax Flexible Coupling Co.—Ajax dihedral spindle couplings for rolling mill drives are subject of 12-page illustrated Catalog 64. Design and performance features, as well as typical installations, are covered.

For more details circle NED-939 M7 on enclosed inquiry slip

Wire Cloth, Screen & Products

F. P. Smith Wire & Iron Works—"MetaLoom Products" is title of comprehensive catalog which deals with standard and custom woven wire cloth, screens, guards, baskets, trays, partitions, and grilles. Handbook data are included on available wire sizes, weights, clear openings, and design.

For more details circle NED-940 M7 on enclosed inquiry slip

BOWSER

WHEEL TANK

QUICKLY TRANSPORTS AND ACCURATELY DISPENSES LIQUIDS IN SPECIFIC QUANTITIES

The Bowser Figure 121 Wheel Tank offers:

- Safe handling of combustible liquids
- Accurate dispensing in pt., qt., half gal. and gal. quantities
- Construction in accordance with U. L. Specifications
- Quick and easy transportation of liquids

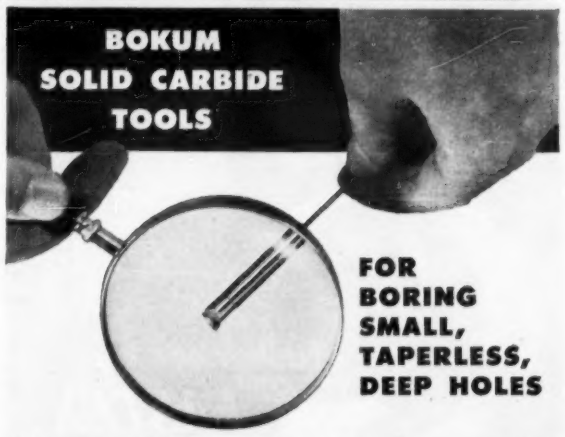
Write for Bulletin 121 . . .

BOWSER INC. and get full details on application and advantages . . . plus complete specifications.

1381 E. CREIGHTON • FORT WAYNE, INDIANA

For more details circle NED-941 M7 on enclosed inquiry slip

BOKUM SOLID CARBIDE TOOLS



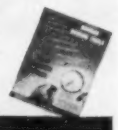
FOR BORING SMALL, TAPERLESS, DEEP HOLES

Get the most out of your investment in precision machinery—protect it with standard Bokum solid carbide boring tools, designed especially to produce close tolerance holes without taper.

The head, cutting grade carbide for fine finishes at high surface speeds, is ground by the Bokum principle to maintain constant radial and helical clearance angles. It is solidly brazed to another grade of carbide, selected specifically for maximum strength and rigidity with minimum springback.

This combination gives you the perfect boring tool for your finest work. It is available from stock in a complete line of standard sizes.

Write Dept. T today for catalog 948. It's packed with information you can use.



TRADE MARK REG. U. S. PAT. OFF.

BOKUM TOOL CO. INC. 14775 Wildemere Ave. Detroit 38, Mich.

For more details circle NED-942 M7 on enclosed inquiry slip

Have You Considered Using paper TUBE SHAPES

Thousands of uses have been found for SONOCO paper tubes—from thread protectors to cores for paper and cloth. Manufactured by spiral, parallel and drawn process, tubes are available as follows:

- LENGTHS: any length that can be shipped
- DIAMETERS: 1/8" to 48" I.D.
- WALL THICKNESSES: from single paper sheet to almost any thickness desired.
- FINISHES: smooth, rough, ground, flocked, colored stock, wrapped with parchment, cellulose or novelty paper—inside liners of plastic, glassine, or cellulose. Can be impregnated for strength; perforated and made with metal ends—printed inside or outside, or on the ends—colored lacquer or dye tips available for identification.

We invite your inquiry! Write today!

SONOCO PRODUCTS COMPANY
MAIN OFFICE — HARTSVILLE, S. C.
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GRANBY, QUEBEC • BRANTFORD, ONT. • MEXICO, D. F.

For more details circle NED-943 M7 on enclosed inquiry slip

Rapid response, pilot-operated

PRESSURE CONTROLS

Relief, sequence and unloading valves to 5000 psi. Features exclusive control piston to minimize transient surge pressures in high pressure systems. Spool design affords minimum turbulence and resistance to flow at secondary or operating discharge port. Unique differential piston gives minimum internal leakage—allows use of varied fluid viscosities at wide pressure-temperature ranges. Sizes ¾" to 1½". Write for details. Bulletin VR-2D. Denison Engineering Division, American Brake Shoe Co., 1192 Dublin Road, Columbus 16, Ohio.

▲ For more details circle NED-944 M7 on enclosed inquiry slip ▲

SK makes a complete line of Rotameters and Flow Indicators. For quick delivery the company stocks popular types and sizes. If you need action fast, contact us stating your requirements. We'll let you know if a stock item is available and, if not, what we can do to expedite delivery. If you want an idea of types available, write for Bulletin M-1. If pictures and describes our line.

Schutte and Koerting COMPANY
MANUFACTURING ENGINEERS
2227 State Road, Cornwells Heights, Bucks County, Pa.

Jet Apparatus: Ask for Condensed Bulletin J-1.	Rotameters & Flow Indicators: Ask for Condensed Bulletin 18-RA.	Valves: Ask for Condensed Bulletin V-1.	Heat Transfer Apparatus: Ask for Condensed Bulletin HT-1.	Gear Pumps: Ask for Bulletin 17-A.

▲ For more details circle NED-945 M7 on enclosed inquiry slip ▲

ELECTROLIFT solves our hoisting problems

Wide selection of dependable worm drive hoists with capacities from ¼ to 10 tons . . . compact . . . close headroom . . . precise control. Consult your local ElectroLift representative or write for complete catalog.

WORM DRIVE ELECTROLIFT HOISTS

4656

204 SARGEANT AVE., CLIFTON, N. J.

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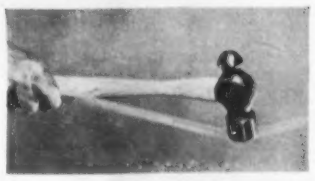
New Processes & Materials

PRESSURE-SENSITIVE TAPE
even adheres to damp surfaces



Available in transparent and opaque finishes as well as in twelve colors, Kylon pressure-sensitive plastic tape is suitable for many uses ranging from sealing, bundling, mending, banding, splicing, and fastening to printed labels and nameplates. Impact resistance is reportedly nine times higher than that of cellophane tapes. It will adhere to damp surfaces indefinitely, and retains its tensile strength after prolonged soaking. Optimum adhesion is maintained at 122 to 140° F temperatures, and it will withstand 180° F for extended periods. It also possesses high dielectric strength, adapting it for electrical insulation purposes. Tape is available in widths of ¼ in. and up in increments of ⅛ in. on 3-in. diameter cores containing 72 yd. Made by **Mystik Adhesive Products, Inc.**, 2657 N. Kildare Ave., Chicago 39, Ill.

▲ For more details circle NED-947 M7 on enclosed inquiry slip ▲

TINNING COMPOUND
in powder form for babbitting

Strong, permanent chemical bond with cast iron, steel, and all metals used for bearings is formed by tinning compound No. 2679. Offered in powder form for use prior to babbitting, it enables the babbitt metal to amalgamate with the tinned surface when the bearing metal is poured. Product will not deteriorate in storage and is packed in 1, 5, and 50-lb containers. Made by **American Solder & Flux Co.**, 19th & Willard St., Philadelphia 40, Pa.

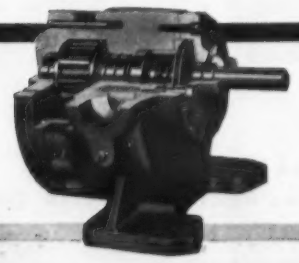
▲ For more details circle NED-948 M7 on enclosed inquiry slip ▲

ROOFING & SIDING
roll-on corrugated steel type

Weather-tight seal is provided with a minimum of labor by Cecoroll roll-on corrugated steel roofing and siding. Suited for factories, warehouses, machine shops, and storage sheds, it has flat crimped nailing edges which preclude matching corrugations This feature also makes it easy to start nails. Edges of the 31-ft rolls are sealed with a factory-applied mastic lap-sealer. Rolls are 15 and 30 in. wide. Made by **Ceco Steel Products Corp.**, Dept. NED, 5601 W. 26th St., Chicago 50, Ill.

▲ For more details circle NED-949 M7 on enclosed inquiry slip ▲

ROPER OFFERS YOU
FLEXIBILITY



GEAR PUMPS
Designed to Your Requirements

Send your specifications for the answer based on the proven Roper pumping principle.

Send for FREE Booklet
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ROPER HYDRAULICS, INC.
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ROPER Rotary Pumps

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Resurface or Repair Worn, Broken Floors with a Safe, Durable Rock-Tred Product

Safe floors are FREE because added efficiency pays the cost. No matter what your floor's composition or condition, it can be made smooth and even—quickly, easily, economically—with no interference to operations. Send details to Rock-Tred engineers for their recommendations.

There's a Rock-Tred Floor Resurfacer or Patcher just right for YOU. Get all facts now.

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

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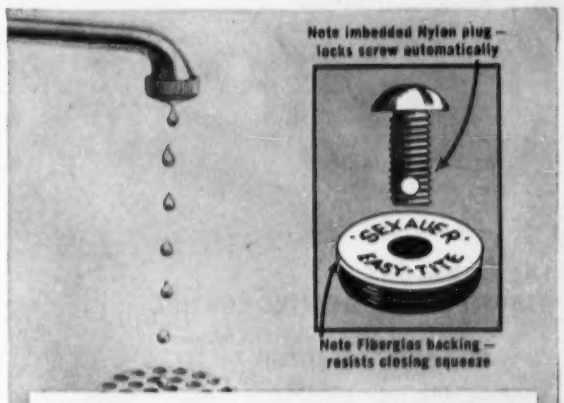

Why Faucets Leak

—9 out of 10 washers are fastened with TOO LONG or SHORT —screws. The screws QUICKLY LOOSEN, thus loose washers —are destroyed thru grind and squeeze of opening and —closing faucets.

34 years of research uncovers new solution

—Now, NEW (Patented) 'Sexauer' SELF-LOCK Monel screws, —with an imbedded expanding NYLON PLUG, lock at the —required depth AUTOMATICALLY—hold washers FIRMLY!

—Made of rustproof, non-corroding MONEL, heads don't —twist off or screw slots distort. They are easy to remove —when necessary, can be used over and over.

—Used with NEW 'Sexauer' EASY-TITE faucet washers, this —combination outlasts past faucet repairs "6 to 1"! EASY-—TITES are made of super-tough, pliable du Pont compound —(neither rubber nor fiber) and reinforced, like a tire, with —a vulcanized layer of Fiberglas, they resist distortion and —splitting from shut-off grind and squeeze.

The hidden costs of faucet leaks!

Faucet leaks are costly! As authenticated by Hackensack, N. J. Water Co. and American Gas Association, STOPPING just ONE PIN-HOLE SIZE (1/32") LEAK can reduce water waste 8,000 gal. quarterly. If a HOT WATER FAUCET LEAK, water and fuel savings JUMP to over $7.58 QUARTERLY—plus additional savings on MATERIALS—LABOR—and *costly* FIXTURE REPLACEMENTS!

NEW SELF-LOCK screws and EASY-TITE faucet washers are just TWO of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW 126 page Catalog "H" available. He will gladly consult with you regarding a SURVEY of your plumbing fixtures to determine correct repair parts required and establish reasonable stock levels that avoid both overstocking and shortages—thus providing for efficient stock arrangement and control—all without obligation. WRITE TODAY!

J. A. Sexauer Mfg. Co., Inc. Dept. AU 127
2503-05 Third Ave., New York 51, N. Y.

Gentlemen: *Please send me a copy of your NEW, 126 page catalog "H."*

My name ..... Title .....
Company or Institution .....
City ..... Zone ..... State .....

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

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...rely on the
Ingersoll-Rand MOTO-R PUMP

Ingersoll-Rand pumps are designed and built for maximum performance, efficiency and trouble-free operation. The I-R line is *complete*—available in many styles and sizes for any type of installation.

- COMPACT DESIGN—saves space
- OPERATES IN ANY POSITION—no special baseplate
- NO ALIGNMENT PROBLEM—motor is directly connected to pumping unit
- MODERN I-R FEATURES—maximum efficiency, low maintenance
- WIDE RANGE OF SIZES—¼ to 75 hp; 5 to 2800 gpm capacity

Get full details on these modern centrifugal pumps.

Ingersoll-Rand
9-489 11 Broadway, New York 4, N. Y.
For more details circle NED-953 M7 on enclosed inquiry slip

THE *One-coat*
HEAVY DUTY PROTECTIVE COATING

For Structural Steel • Tanks • Stacks Walls and Floors • Tank Truck Exteriors

Outstanding resistance to chemicals, acids, alkalies and solvents . . . withstands extreme weathering . . . can be applied by brush or roller coating . . . dries to touch in six hours.

SERIES E-900 COATINGS are high solids modified epoxy formulations which result in superior toughness, resistance to abrasion and excellent adhesion to any clean surface.

Regularly available in . . . clear . . . white . . . gray . . . and sea-foam green. Because of high solid content, 95% of the applied thickness is converted to a protective film.

Write today for Technical Bulletin E-900

7800-CC
THE CEILCOTE COMPANY INC.
4838 Ridge Road • Cleveland 9, Ohio
For more details circle NED-954 M7 on enclosed inquiry slip

The Wells 49A is a dual-purpose machine designed for shop or "job-site" work. As a horizontal cut-off saw, the 49A has a capacity of 3½" x 6". Swing the head to vertical position . . . it's an upright band saw. No tools required! Use it for cutting angles, slots, notches, bevels and light contour work.

The 49A can save time and money for you. Let your local Wells Distributor show you how . . . or write direct for complete information.

Wells
The Pioneers of Horizontal
METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 Harding St. Three Rivers, Mich.
For more details circle NED-955 M7 on enclosed inquiry slip

New Processes & Materials

OXIDE FILM REMOVER improves electrical joints

This Anti - Oxidant compound chemically removes oxide films from aluminum and copper without harming the base metal. It assures low - resistance electrical connection. Compound is just squeezed into the joint where it quickly removes oxide films and prevents the forming of new films with a weatherproof seal around the contact surfaces. Compound is insoluble in water. Made by **Hi-Voltage Equipment Co.**, 4000A E. 116th St., Cleveland 5, Ohio.

For more details circle NED-956 M7 on enclosed inquiry slip

HARD FACING METHOD small carbide plates on flexible strip are applied to metal surfaces

Hard facing of metal surfaces for protection against abrasion and wear can be done by method involving Kenplate flexible sheet or strips of cemented tungsten carbide. Kenplate consists of small hexagonal plates of carbide assembled in continuous pattern on adhesive glass fiber backing. Backing holds plates in position while they are bonded by epoxy adhesives, silver solder, or conventional brazing materials to the metal surfaces. Sheets can be cut or joined in multiples to form any shape to cover flat surfaces or for wrapping around curved surfaces.

Hexagons are made in 0.425 and 0.210 in. sizes across the flats, in respective thicknesses of 1/16, ⅛, and ¼ in. and 0.040, 1/16, and ⅛ in. After application, normal joint spaces are less than 0.002 or 0.003 in. Smoothness is achieved by grinding the surface after application. Kenplate is supplied in strips 6 and 12 in. long and in widths ranging from 0.65 to 5.95 in. Side and end plates are squared off. Made by **Kennametal Inc.**, Dept. NED, Latrobe, Pa.

For more details circle NED-957 M7 on enclosed inquiry slip

CORROSION PREVENTIVE for fuel oil and storage tanks

Rusting out at the bottom of fuel oil and storage tanks can be prevented by Tank-No-Corrode, a product which neutralizes the sulfuric acids formed when water condensation is trapped. Electrolysis and corrosion are stopped and subsequent leaks are prevented. Offered in six - tablet packs sufficient to treat a 1500-gal tank, it does not float or clog lines or filters and will not dissolve or react in oil. Made by **J. A. Sexauer Mfg. Co.**, Dept. 39, 2503-05 Third Ave., New York 51, N. Y.

For more details circle NED-958 M7 on enclosed inquiry slip

DRAIN CLEANER creates heat to dissolve grease

Instant 260° F heat is created in drain traps for quick dissolving of grease by Drainite drain cleaner. Made for scouring the insides of pipes after "rodding", it has no irritating fumes. Special ingredient prevents hardening or caking of the material in the can or trap. Cleaner comes in 20-oz can with flip-top cover. Made by **Crest Mfg. Co.**, Dept. NED, 4-65 48th Ave., Long Island City 1, N. Y.

For more details circle NED-959 M7 on enclosed inquiry slip

They eliminate expensive machining and tooling—and costly, complicated fasteners! Precision-made INDUSTRIAL Retaining Rings—internal, external and open-type—are immediately available in a wide variety of sizes and finishes. Send for catalog that shows them all, including handy, time-saving, *stacked* open-type E Rings. Samples, too. Write today!

IRR *Originators of modern retaining ring dispensing*
INDUSTRIAL RETAINING RING COMPANY
Dept. N-12, 57 Cordier Street • Irvington 11, New Jersey
For more details circle NED-960 M7 on enclosed inquiry slip

Write for folder and prices NOW.

Let us quote on your special switch requirements.

Our brand new Linemaster "COMPACT" combines unbelievable low price with the finest, most efficient design now available. It's small and light for maximum adaptability. The absolutely foolproof actuating mechanism has amazing sensitivity which permits versatile operation by foot, finger, knee or elbow. Ruggedly constructed of long lasting heavy gauge steel, featuring a handsome black crackle finish and non-skid base. "COMPACT" switch has thousands of potential profit-making industrial applications.

LINEMASTER SWITCH CORP.
424 Woodstock Terrace • Woodstock, Conn.
For more details circle NED-961 M7 on enclosed inquiry slip

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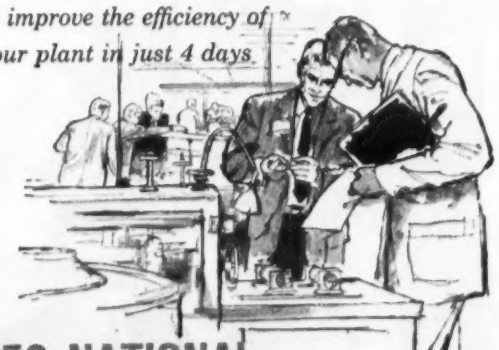

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January 27 to 30, 1958

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Clapp & Poliak, Inc., Show Management
341 Madison Ave., New York 17, N. Y.
For more details circle NED-962 M7 on enclosed inquiry slip

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Circle the Numbers Below corresponding to items on which you want additional information. Your request will be sent promptly to the manufacturer. Please fill in the coupon completely. We'll pay the postage.

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1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	1201
2	52	102	152	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152	1202
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12	62	112	162	212	262	312	362	412	462	512	562	612	662	712	762	812	862	912	962	1012	1062	1112	1162	1212
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19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169	1219

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COMPANY _____

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Approximate Number of Employees in Plant: _____

Check Invested Capital Rating of Your Company

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- ☐ $500,000 to $1,000,000
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We've just published new data about Meyercord Types C, G, J, & H (heat resistant) nameplate markings, designed to meet the challenge of the most difficult surfaces. For your free copy, please write on company letterhead.

New MEYERCORD
TYPES C, G, J, and H.
Name plate markings designed for heat, abrasion, weather resistance and new finishes

Heat . . . abrasion . . . weather and many of the new surfaces are deadly enemies of most types of product markings. But not to the new improved Meyercord Markings, Types C, G, J and H (heat resistant). Depending upon the surface and the conditions of use one of these new-type Meyercord Markings will, by actual test, almost certainly solve the problem. For exact recommendations designed to meet your special requirements, drop us a note outlining the problem, along with an actual sample of the surface. This service is offered without obligation of any kind.

THE MEYERCORD CO.
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Dept. P-316
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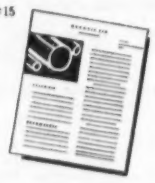
Superior Tube adds 5 New Glass Sealing Alloys to standard line

KOVAR* · RODAR† · #430 · #430Ti‡ · THERLO‡

Now Superior offers glass sealing alloy tubing with expansion characteristics to meet practically any glass sealing requirement. These five new analyses are in addition to six already in the line. Superior also offers titanium tubing for ceramic-to-metal seals. All are available in quantities as small as 50 ft. and are cold drawn to close tolerances. Size limits in most cases from .012 to 1⅛ in. OD. Write for new Data Memorandum 15 giving technical information on all these alloys and the known applications for them. Superior Tube Company, 2018 Germantown Ave., Norristown, Pa.

Data Memorandum #15



Superior Tube
The big name in small tubing
NORRISTOWN, PA.

Johnson & Hoffman Mfg. Corp., Mineola, N.Y.—an affiliated company making precision metal stampings and deep-drawn parts.

*Stocked and sold by the Stupakoff Division of the Carborundum Co., Latrobe, Pa. T.M. Reg. U.S. Pat. Off., Westinghouse Electric Corp.
†T.M. Reg. U.S. Pat. Off., Wilbur B. Driver Co.
‡T.M. Reg. U.S. Pat. Off., Driver-Harris Co.

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Tipp "Cable-Way" Conveyors with NYLON WHEELS

FOR EXPLOSIVE CONDITIONS: Nylon wheels are installed in non-sparking bronze trolley side plates.

FOR CLEAN, QUIET OPERATION: In non-hazardous atmospheres, the nylon wheels are furnished in steel trolleys. Nylon wheels are almost noiseless—require no lubrication.

TIPP "Cable-Way" overhead conveyor systems with steel wheels also available.

TIPP MANUFACTURING CO.
TIPP CITY 7, OHIO

INVENTORY IN MOTION WITH . . . Tipp . . .
A FULLY ENGINEERED PRODUCT

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New Processes & Materials

FLASHING MATERIAL
easily fabricated and is waterproof

Saraloy 400 elastic flashing can be fabricated on the job to almost any construction shape and material, including corrugated roofing and siding, vent stacks, and masonry chimneys. Its elasticity prevents breakage of joints or loss of bonding as surfaces expand and contract. Other uses are for roof drain, ventilator base, cap and base flashing, expansion joints, fascia coverings, and interior flashings. It forms a seal around nails driven through it, and is resistant to oil, gas, acids, alkalies, fire, abrasion, and tearing. Surface of the black, thermoplastic sheet of vinylidene chloride copolymer is paintable. Material is cut to size with a knife or heavy duty scissors, and can be solvent-bonded to itself. Made by **Dow Chemical Co.**, Dept. M, Midland, Mich.

▲ For more details circle **NED-966 M7** on enclosed inquiry slip ▲

POLYETHYLENE LINER
fits steel drums, holds corrosives

This ¼-in. thick polyethylene liner is designed for steel cylindrical tanks having flat bottoms and no inside metallic welds. Liner shown is for 55-gal steel drum used for sulfuric acid storage and handling. Other applications include metal cleaning, degreasing, and similar jobs in chemical, plating, and general metalworking plants. Tanks can be furnished already lined, or the liner can be fabricated to specification for insertion into tank by the user. Rolled top lip covers top edge of steel drum to avoid spilling liquid between liner and container. Made by **American Agile Corp.**, Dept. E, Box 168, Bedford, Ohio.

▲ For more details circle **NED-967 M7** on enclosed inquiry slip ▲

ULTRASONIC LIQUID DETERGENT
accelerates removal of soils

When used in conjunction with any ultrasonic cleaning equipment, Acoustica Ultrasonic Cleaner No. 715 accelerates removal of soils to a fraction of time required with ordinary detergents. The water-based detergent acoustically conditions the cleaning solutions. A wide variety of difficult-to-clean objects, such as lenses, precision parts, surgical instruments, ball bearings, and clock type mechanisms, are effectively cleaned with No. 715 cleaner. Free pint samples are offered by **Acoustica Associates, Inc.**, Dept. NED, 26 Windsor Ave., Mineola, N. Y.

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ALUMINUM COATINGS
in a wide variety of colors

Protection of aluminum-metallic coatings, as well as color identification, is achieved with Plastic Metal No. 300 colored metallic coating. Coating, which incorporates Alcoa metallics in a plastic alkyd, is offered in many standard or custom colors. It can be used inside or outside, maintains a permanent bond, expands and contracts with the metal surface, and resists abrasion, as well as attack by hot or salt water, steam, moisture, acids, alkalies, oil, grease, gas, chemicals, or exposure to the elements. Fish oil is among the additives used to attain rust inhibitive qualities. Made by **Yenkin-Majestic Paint Corp.**, Plastic Metals Div., 1920 Leonard Ave., Columbus 19, Ohio.

▲ For more details circle **NED-969 M7** on enclosed inquiry slip ▲

Cracked cast iron block . . . repaired the same day with Ni-Rod "55"

When this 150-lb. pulley block cracked, operators had to choose between replacement and repair. Replacement meant delay, so they decided to try repair.

With Ni-Rod* "55" electrode, the job was finished within the day. The strong, sound weld took only 1½ lbs. of Ni-Rod "55" electrode.

Emergency repairs are easier with Ni-Rod "55" electrode. No special equipment. No special training. *Most jobs require no preheat.*

Send for folder, "Repair Cast Iron Parts Quickly and Easily." Gives many examples of successful welding with Ni-Rod "55" electrode. Circle the number below on the NED inquiry slip.

The INTERNATIONAL NICKEL COMPANY, Inc.
67 Wall Street *Registered trademark New York 5, N. Y.

INCO **Welding Products**
Electrodes • Wires • Fluxes

▲ For more details circle **NED-970 M7** on enclosed inquiry slip ▲

NEW BOOKLET AVAILABLE ON JOY LIMBEROLLER® BELT CONVEYOR IDLER

Booklet contains design and application data for those who specify and purchase belt conveyors for handling any bulk material . . . especially those with abrasion, corrosion, or lubrication problems.

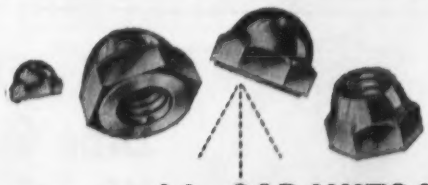
The Limberoller is a single roll idler consisting of neoprene discs molded to a flexible steel cable. The entire idler turns on its own axis. Only two bearings are used, one at either end, up out of the dirt. The flexibility of the entire idler imparts a self-cleaning action—prevents material buildup.

Many companies have received over 10 times the service life of conventional idlers and adopted Limberollers as standard for all belt conveyor operations. Write for Bulletin 161-54.

WSW L6936-161

JOY EQUIPMENT FOR ALL INDUSTRY
JOY MANUFACTURING COMPANY, OLIVER BLDG., PITTSBURGH 22, PA.
IN CANADA: JOY MANUFACTURING COMPANY, (CANADA) LTD., GALT, ONTARIO

▲ For more details circle **NED-971 M7** on enclosed inquiry slip ▲



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New High Series! write for spec. sheet.

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And to guarantee **greater economy . . . better appearance**, GRC die casts them in **rustproof, corrosion-resistant**, durable zinc alloy!
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CUT HOURS OF DOWNTIME USE...

Plastic Steel® A DEVCON PRODUCT 80% Steel — 20% Plastic

FOR ON-THE-SPOT REPAIRS!

PLASTIC STEEL can save you . . . hundreds of hours . . . thousands of dollars . . . on all types of maintenance and repairs. Use it for repairing leaking pipes, valves, hydraulic systems . . . rebuilding worn valves and castings . . . altering cams and gears . . . repairing and rebuilding machinery . . . making jigs, dies, molds and fixtures . . . doing 1001 on-the-spot repairs that cut lost production time to a minimum.

PLASTIC STEEL is as easy to use as modeling clay . . . bonds to metals, concrete, woods and other surfaces . . . hardens to steel-like strength in just 2 hours — even under water . . . no heat or pressure required . . . unaffected by most solvents, oils or chemicals . . . can be sawed, tapped, drilled or ground by metal-working tools . . . will not shrink, expand, rust or corrode . . . has extreme strength and durability . . . available in 4 types.

Proven in use by leading manufacturers, PLASTIC STEEL can cut costs, speed production in your plant. FREE booklet describes types of PLASTIC STEEL available, shows a few of the many industrial applications. Write for your copy today.

Nationally distributed by leading industrial suppliers.

DEVCON CORPORATION
140 Endicott Street, Danvers, Mass.

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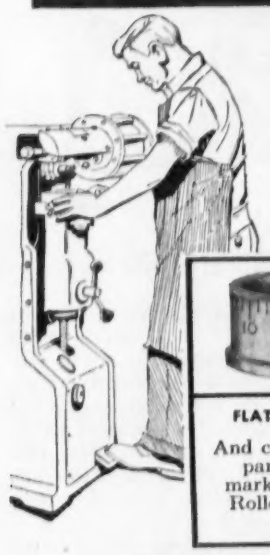
PRODUCTION MARKING



Speed your production with a GENERAL PURPOSE MARKING MACHINE. Several models available for quick, safe, light or heavy-duty marking of round, flat, or contoured parts, at rates up to 800 per hour!

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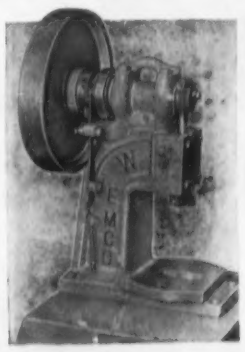

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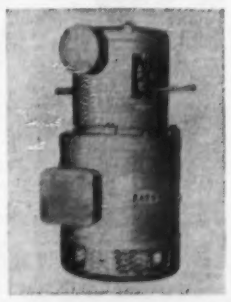

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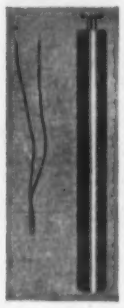

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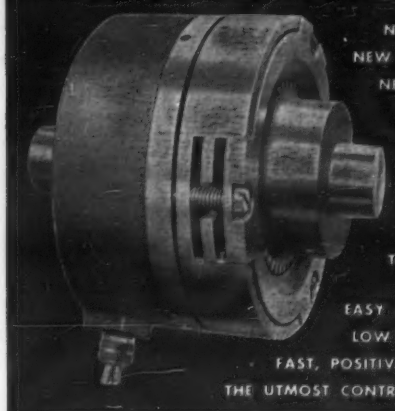

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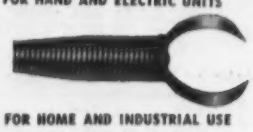

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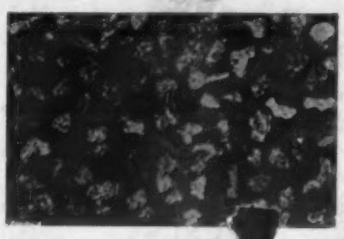

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For more details circle NED-983 M7 on enclosed inquiry slip

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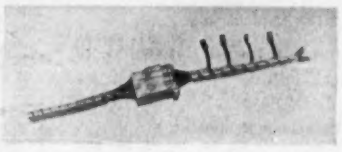
spiral type for 3½-in. bundles



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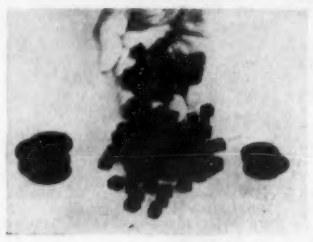

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